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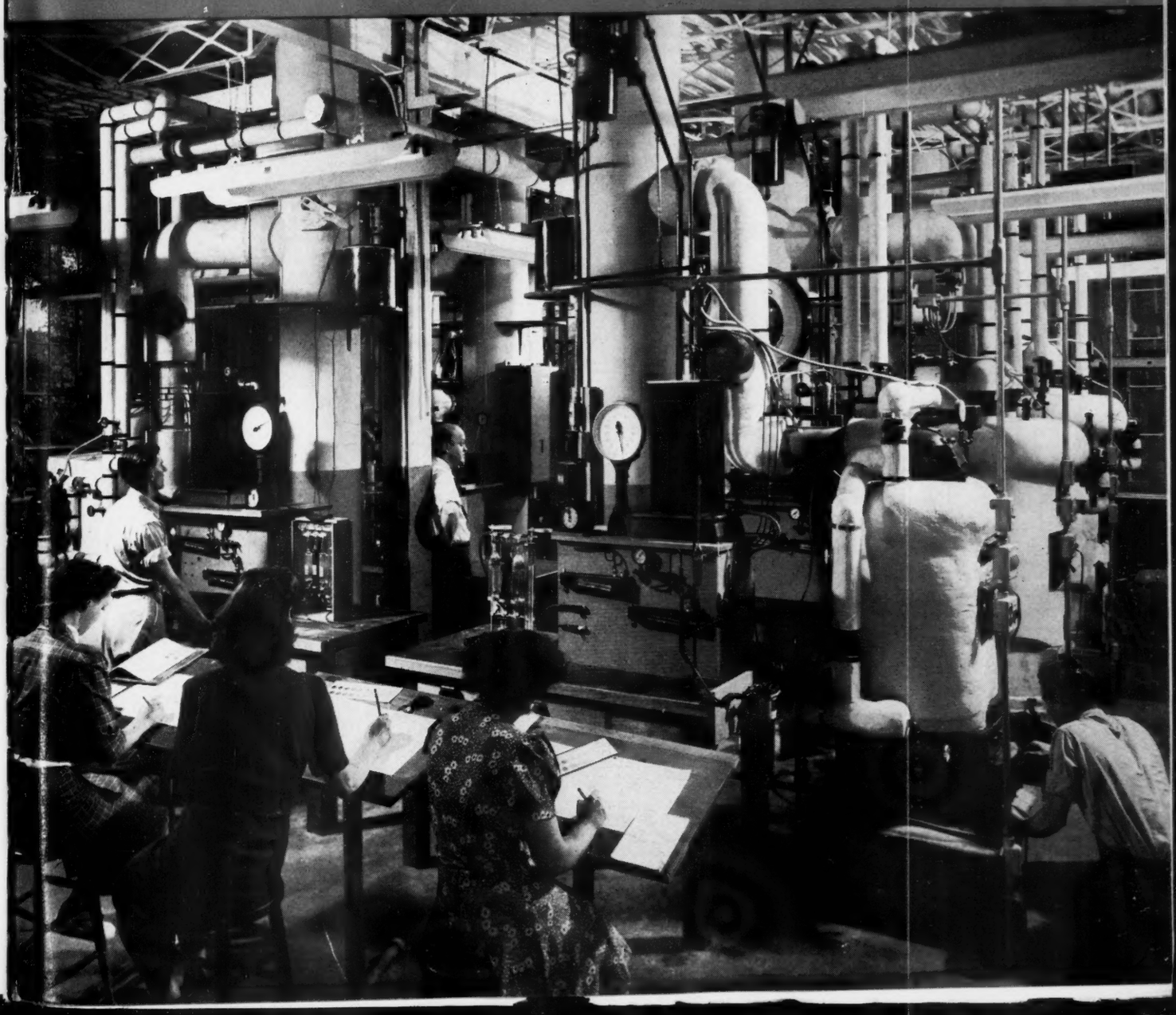
fueloil & oil heat



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* According to Jensen Fuel Company, Tacoma, Wash., who operate 8 fuel oil trucks equipped with Brodie Meters.

In the final analysis savings in time and errors contribute to higher gallonages with greater margin of profit. During the rush season, fuel oil deliveries must be maintained on a close schedule, which does not permit any delays or costly errors. Equipped with Brodie Quantrol Meters, tank trucks can be dispatched for greatest efficiency over prescribed routes. When making a long hose discharge all the driver has to do is to set the exact predetermined number of gallons to be discharged. When this point in the delivery is reached the *Automatic Quantity Control* shuts off the flow. Thus overfilling, spillage and waste of product with resultant damage to customer's property is avoided. There is no loss of time nor wasted steps—no chance for errors. Keep your trucks on schedule with Brodie Quantrols. Investigate today. Write for full details.

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2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA.
REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

VOL. 6, NO. 7

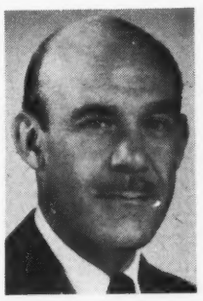
fueloil & oil heat

NOVEMBER

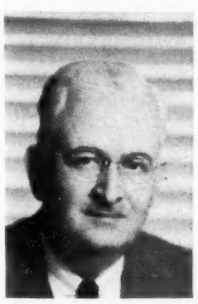
1947

Names in the News

Georges Faurie has become general sales manager, Heating and Appliance Div., Evans Products Co., Plymouth, Mich., to coordinate all field sales activities for its line of oilburning water heaters and space heaters. His twenty years of experience in sales and related promotional activities includes association with Delco Appliance Div., commencing in 1932. There, and in assignments with Frigidaire Div. and the combined Delco-Frigidaire Div., Mr. Faurie's positions included manager of sales promotion and education, eastern regional sales manager and, finally, manager of advertising and sales planning. For the past three years he has served as advertising, merchandising and sales promotion manager, Home Radio Div., Westinghouse Electric Corp.



Clyde G. Morrill, executive director of the Atlantic Coast Oil Conference and of the Independent Oil Men's Assn. of New England was honored at a testimonial dinner at New York's Hotel Waldorf-Astoria on September 25. Seventy prominent oil men from several Eastern states formed the gathering to congratulate Morrill on completion of ten years of noteworthy service to the industry. As a memento of the occasion, Morrill was given a fine pair of high-power binoculars.



Robert D. Logee, vice president, Anchor Post Products, Inc., Baltimore 24, Md., has been named assistant to W. F. Brannan, president. In addition to his

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MERCOID VISAFLAME

(LIGHT ACTUATED) CONTROL SYSTEM

FOR DOMESTIC AND INDUSTRIAL OIL BURNERS

THE OIL BURNER CONTROL THAT EVERYBODY LIKES AND EVERYBODY WANTS

Do You Have Them?

Every oil burner manufacturer, dealer and service man who does not have a copy of Bulletin V-14 which gives a full description of the Mercoid Visaflame Control: also the installation instruction card, should write for copies now.

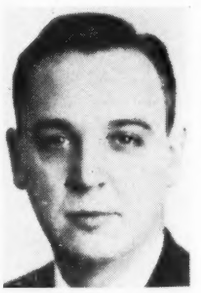
The Mercoid Corporation, 4201 Belmont Ave., Chicago 41, Ill.

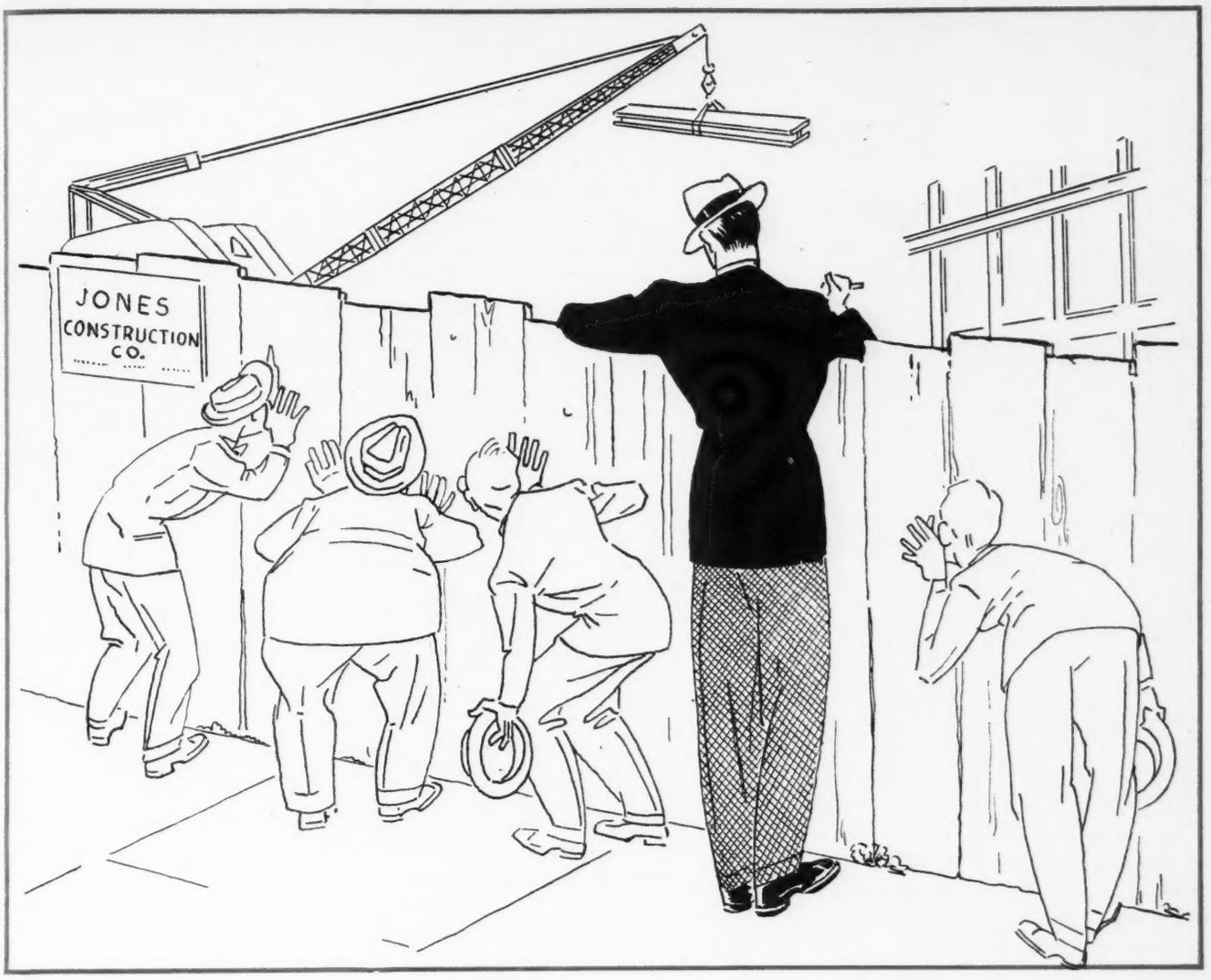
executive duties, Mr. Logee will supervise the entire corporation's sale of products, including Fluid Heat domestic oil-burners and units.

F. B. "Ted" Caldwell, Chicago, Ill., has been named representative for domestic fueloil tank gauges, manufactured by Rochester Mfg. Co., Rochester, N. Y. Mr. Caldwell will operate in the states of Illinois, Indiana and southern Wisconsin. He has had broad experience in jobbing, plant construction, management and sales of fueloil and for a number of years has been active in oil-burner association work. From January 1944 to July 1947, Mr. Caldwell served as national secretary, OHI's Distribution Div., acted as secretary and treasurer, Chicago Oil Burner Association from 1943 to the present and from 1934 to 1947 was executive secretary, Burning Oil Distributors Association, Chicago.

Theo Valjean became eastern district manager on October 1 for Duo-Therm Div., Motor Wheel Corp., Lansing, Mich. He succeeds *R. H. Reeder,* who recently was named Duo-Therm sales manager. Mr. Valjean joined Duo-Therm in 1937, became a field engineer in 1942, and assistant service manager last January. He will operate in Maryland, Delaware, New Jersey, Washington, D. C., part of Pennsylvania and Virginia and metropolitan New York.

Joseph H. Shoemaker, formerly in the sales department, Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill., has been appointed a district representative in the New England sales division. His territory will encompass the state of Massachusetts, with the exception of metropolitan Boston. Mr. Shoemaker joined Eureka-Williams' cost accounting department in 1944 and two years later began the sales training which has culminated in his current assignment.





One stands out above the rest!

Clearer vision of the other fellow's problems simplifies the solution.

Centrifugal starting switches in Ohio Motors for oil burners contain *only 10 individual parts*. Seven in the switch — three in ring assembly.

SIMPLIFIED DESIGN assures better performance for a longer time. For more than twenty years manufacturers and dealers have relied upon *Ohio Motors*.

Ohio MOTORS

THE OHIO ELECTRIC MFG. CO.

5913 MAURICE AVE. • CLEVELAND 4, OHIO

fuel oil & oil heat

Editorial Leaks

How much would people be willing to pay for home heating oil, if they felt that they couldn't otherwise get it? In Detroit virtually all of the oil companies have announced a policy of "no new customers" for home heating. The Michigan governor has twice been on the radio urging folks to take the stringency seriously.

Into the office of a prominent oilburner dealer recently walked an oil man with a proposal. He explained that he had two hundred thousand gallons of No. 2 that wasn't earmarked for anyone, and was available to sell to buyers of new burners.

He would make firm commitments to supply the full winter's needs of any family . . . but at 14¢ a gallon.

The burner dealer called some of his prospects with this news. Quicker than you would believe, he sold and installed about 125 more burners and the oil man made contracts direct with the consumer.

Then the oil man came back, some days later, with another 100,000 gallons to sell. But this time he wanted 15¢ plus a $75 advance bonus from each new customer. The oilburner dealer found that even this arrangement was acceptable to a number of people. However, shortly after he had started cooperating on this program, he told the story to his factory and they strongly advised him to stop being an accessory to such short-sighted activities, so he did.

That's just the way the story was told to us, with names, dates and places. It could be true and probably is.

◈

Most constructive elements within the oilheating industry are urging that dealers launch burner replacement campaigns. In the "Trends" section on page 10, survey results show that a number of dealers are making some start in this direction, yet during September only about one installation in ten was a replacement.

Up to now it has been hard to get things rolling toward replacement sales, for the simple reason that salesmen had enough good prospects for new installations and preferred to sell those, presumably because more was realized from them.

During the past thirty days new prospects and new orders have declined. Important volume can be added through swapping new burners for old . . . if the dealers and if the salesmen believe that it can. One point might help convince the skeptical—

In the October 1944 issue of FUELOIL & OIL HEAT was an article, "Oilheating Tomorrow," a five year postwar forecast. In developing that forecast, the various applications of burners had been studied individually. One of these special studies was on replacements.

It was learned that replacements by years had only an incidental relation to the age of burners, but they had a pronounced relation to national income levels. In other words, most people didn't buy a replacement because their present burner was so old that it wouldn't work any longer. They bought because they were given a convincing story on what was to be gained by swapping, and this was done at a time when they had money to spend.

Income levels and general prosperity are today higher than at any prewar period, yet oilburner replacements have been running at half the prewar rate or less. Based upon the 1941 rate of replacements, and the much lower rate since then, there is a backlog of replacement potential of fully a quarter million burners. These can be sold as quickly as oilheating merchandisers get serious about this business.

◈

We are heading straight toward that old debate over the "most essential" use of our petroleum resources. Inevitably, we will run into the argument that it is more desirable to make gasoline than heating oils, because only gasoline will fuel an automobile, but coal or gas will heat a house. This line of reasoning is supposed to quiet those who contend that it is more essential to keep the house warm than to ferry Mamma across town to a bridge party. That principle was upheld during the war.

It should be kept in mind a considerable segment of the corn-raising industry has been trying to introduce alcohol as a motor fuel—against the determined opposition of the petroleum industry. Since this battle last flared into the open there has been a great advance in the commercial production of alcohol from cull potatoes. Whether it will be openly admitted or not, there are substitutes for gasoline as well as for fueloil.

We think there is oil enough for all uses, and that there is no need for any of the substitutes that constantly are being advocated. All that is necessary to avoid the inroads of these substitutes is a better balance between refinery yields and the public demand.

◈

Dealers who are making automatic fueloil deliveries should recognize a change that is creeping in the tank business without fanfare. Tank manufacturers are not denying that their new basement tanks do not always hold 275 gallons, but few are giving the fact much publicity.

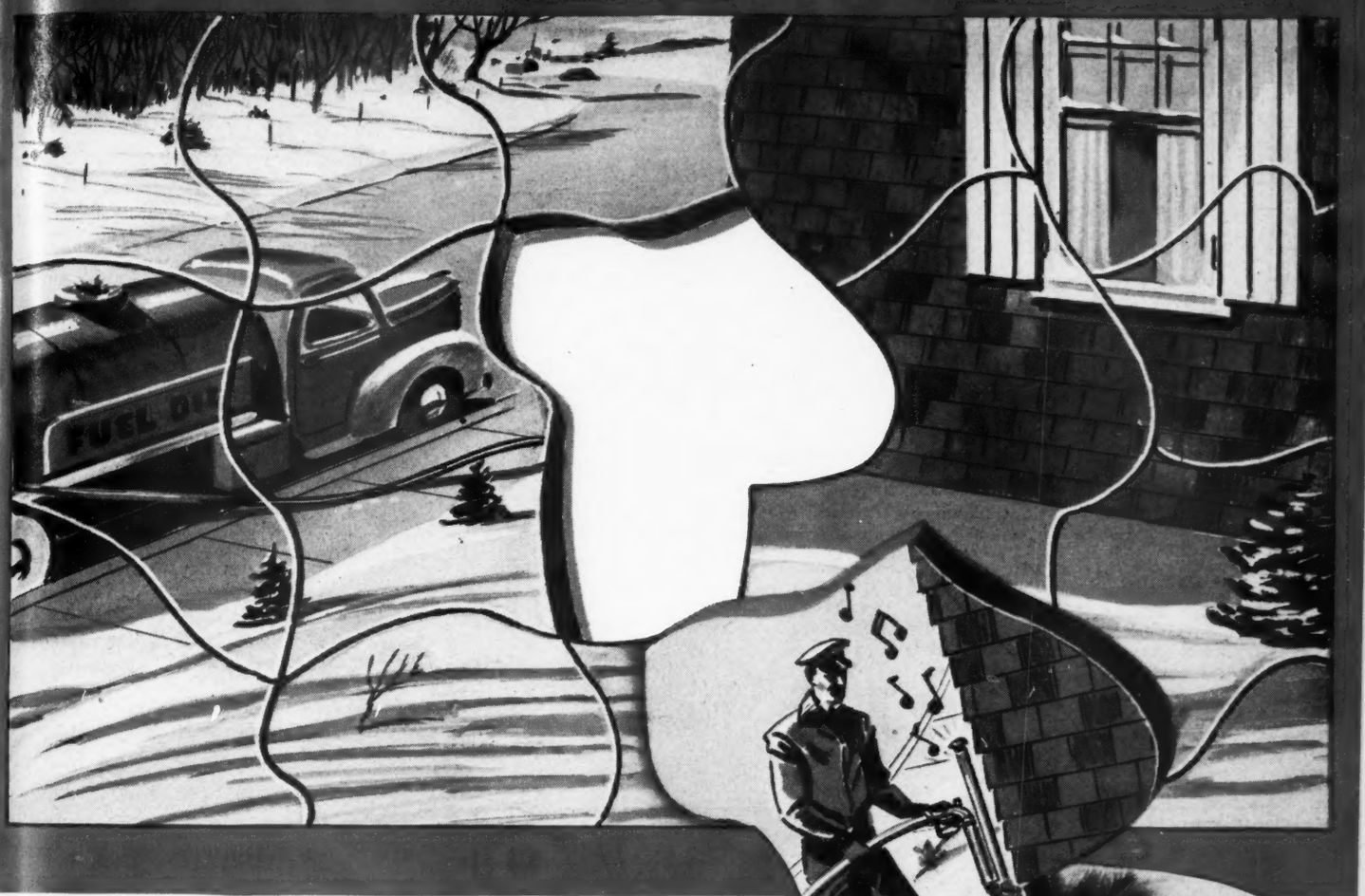
Tank manufacturers are troubled with a serious shortage of steel sheets, and have to take whatever is available. Too frequently these sheets are not standard size. If they happen to be a foot narrow, the tank comes out 220 instead of 275. There are 265 gallon tanks on the market, as well as 100s and 180s.

If the tank is noticeably smaller than the standard 275s, it is easy to spot, but a small difference might easily be overlooked. Oil dealers will do well to take the dimensions of new tanks before assuming that they are delivering to a standard basement tank.

◈

New brides of oilheating men should be warned in advance of the peculiar habits and eccentricities of the breed. They are most unreliable as the honeymoon wanes, as one New Jersey bride has found out.

Baby sat at home and read until midnight, but Lover hadn't come home. She paced the floor for an hour before the strain of anxiety drove her to the police. With Lover's name and occupation they called the boss for a number of addresses of new installations. At 3:00 a. m. the police reported back to Baby that Lover was safe in the basement at so-and-so address, working over a hot Orsat.



SOLVING A PUZZLE FOR Profit!

Key piece in the profit picture of more than 3500 fuel oil dealers is VENTALARM Signal — now installed on more than 1,000,000 home fuel oil storage tanks.

With VENTALARM-aided deliveries, dealers report consistent savings of 20 to 30 per cent in fuel delivery costs. VENTALARM Signal makes every stop a drop; eliminates non-deliveries and call-backs. Because your driver never enters the home, he *saves* 5 to 7 minutes per stop. More gallons delivered per mile and maximum use of man and truck time.

★ Equip your customers' tanks with VENTALARM.

★ *Your* executive decision now will greatly increase your profits *this* winter!

★ Purchase VENTALARM from your supply house or write us for complete information.

SCULLY

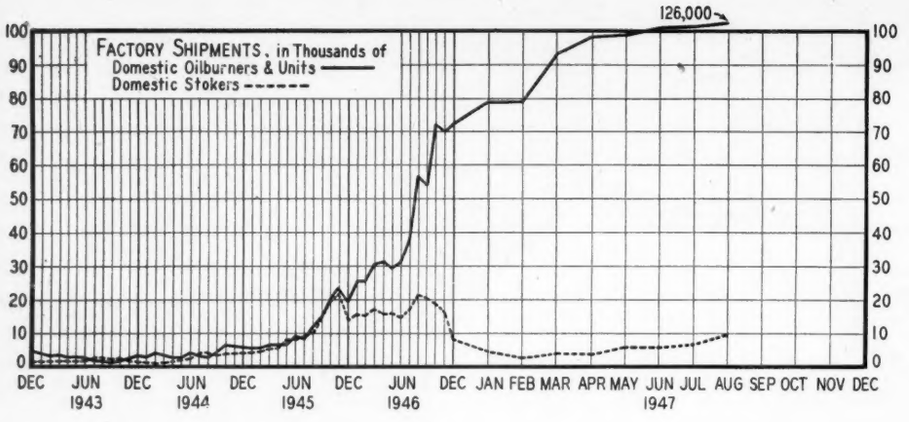
VENTALARM

T.M. REG. U.S. PAT. OFF.

"Whistling" TANK FILL SIGNAL

SCULLY SIGNAL COMPANY

88 FIRST STREET - CAMBRIDGE 41, MASS.


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Stokers ------
126,000
DEC JUN 1943 DEC JUN 1944 DEC JUN 1945 DEC JUN 1946 DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC 1947

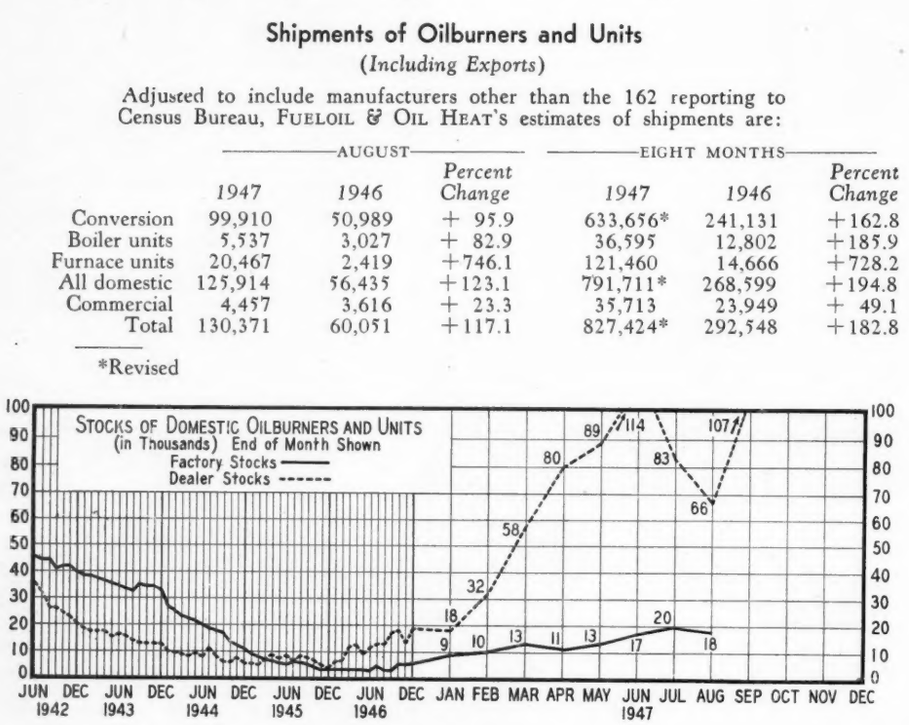
Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 162 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1947	*1946*	*Percent Change*	*1947*	*1946*	*Percent Change*
Conversion	99,910	50,989	+ 95.9	633,656*	241,131	+162.8
Boiler units	5,537	3,027	+ 82.9	36,595	12,802	+185.9
Furnace units	20,467	2,419	+746.1	121,460	14,666	+728.2
All domestic	125,914	56,435	+123.1	791,711*	268,599	+194.8
Commercial	4,457	3,616	+ 23.3	35,713	23,949	+ 49.1
Total	130,371	60,051	+117.1	827,424*	292,548	+182.8

*Revised

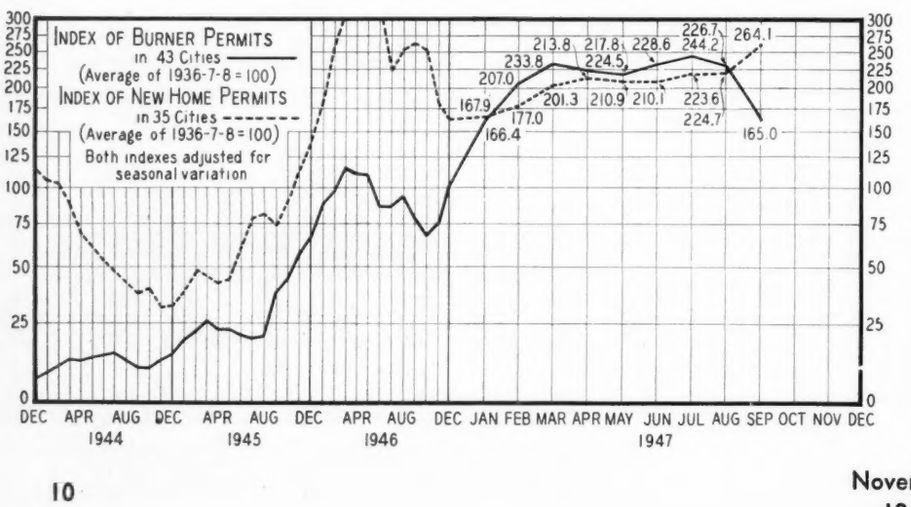

STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks ——
Dealer Stocks ------
JUN 1942 DEC JUN 1943 DEC JUN 1944 DEC JUN 1945 DEC JUN 1946 DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC 1947

September Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE BURNERS
Highest	$525	$975	$800
Lowest	290	450	485
Sept. Aver.	355	691	623
Aug. Aver.	351	714	621

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
September	140.1	Six months ago	158.6	September	144.2	Six months ago	143.3
August	139.4	Year ago	140.0	August	142.5	Year ago	138.1


INDEX OF BURNER PERMITS
in 43 Cities ——
(Average of 1936-7-8 = 100)
INDEX OF NEW HOME PERMITS
in 35 Cities ------
(Average of 1936-7-8 = 100)
Both indexes adjusted for seasonal variation
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC 1944 1945 1946 1947

Oilheating Trends

INSTALLATIONS OF domestic oilburners and units in September are estimated at 60,047, considerably below the previous two months. July had been 78,310 and August 84,232. Since September is normally the peak month, the slow-down indicates that the threatened oil supply stringency is beginning to have an effect. Total installations for nine months were 578,472.

Of the September installations 9.9%, or 5,945, were replacements, showing that the month produced 54,102 new oil users. Added to the 480,580 new oil users previously accounted for during the year, the new total becomes 534,682.

The differentiation between oilburner sales and oilburner installations that has been made in this column during the past two years is being discontinued, since it is recognized that dealer backlogs are pretty well cleaned out, and that in most instances it is possible to install a burner reasonably soon after it is sold. Only the figures for installations will be carried hereafter.

BURNER STOCKS: Apparently not prepared for the drop in burner sales in September, dealers let burners keep coming in from the factories and let their stocks mount considerably above the previous month, to reach approximately 106,845. This is not as high as the peak at the end of June, when 114,000 was reached. Factory stocks at the end of August, latest available data, were 18,000.

SERVICE INCOME: September service department income of reporting dealers averaged $3,397, a 16% drop from the $4,061 reported by the identical group last year. August income was $2,824 and July $2,558.

BURNER REPLACEMENT SALES: The Oil Heat Institute, as well as several burner manufacturers have been suggesting to dealers that they undertake a full-fledged replacement sales campaign this fall, partially to offset the loss of sales due to oil supply uncertainty. A little less than half (45%) of the dealers are now working on replacement campaigns to a greater or lesser degree. Showing that such drives do work when well conducted is the fact that, among the companies who have replacement drives going on, about 13% of their September business was on replacements.

On the other hand, replacements represented only 4% of sales for the companies not pushing this business.

Among those who are making some special replacement effort, 92% are doing it by personal solicitation, 32% use telephone canvasses, 31% employ direct mail and 23% newspaper advertising; most companies use two or three of these methods.

One company reports that it is emphasizing replacement sales through its service men, for they best know the condition of the old jobs and where it might be fruitful to try for a sale. Most companies are using fuel conservation as their theme song.

OIL TANKS: Tank supplies have tightened up quite seriously in some parts of the country, particularly along the Atlantic seaboard. A little more than a third of dealers, countrywide, are completely out of tanks; these dealers have burner orders with everything ready for installation except the tank. The experience of the reporting dealers on this would indicate that througout the country there were on October 1 about 12,723 burner orders that could not be installed because only the tank was missing. Thus, September installations would have been substantially higher but for the tank scarcity.

Tank prices are naturally up under the condition of shortage and on October 1, countrywide an average of $45 was being paid for a 275-gal. tank. One dealer was buying as low as $26 and another one paying as high as $81. Among all reporting dealers 38% were paying somewhere between $30 and $40; 44% were paying $41 to $50; 9% were paying $51 to $60; and 9% were paying over $60.

Because there has been considerable discussion about using aluminum tanks, two of which are now ready for the market, the dealers were asked about these. Not one reporting dealer said that he has used aluminum tanks. Some say they would like to have more information about them. About one-tenth of the dealers ventured an opinion that aluminum tanks should be very good, although some of them qualified this by saying that they expected the price to be too high. A few others intimated that they would have no objection to paying a premium for aluminum tanks. Only three per cent of dealers expressed a definite prejudice against aluminum.

Oilburner* and Building Permits

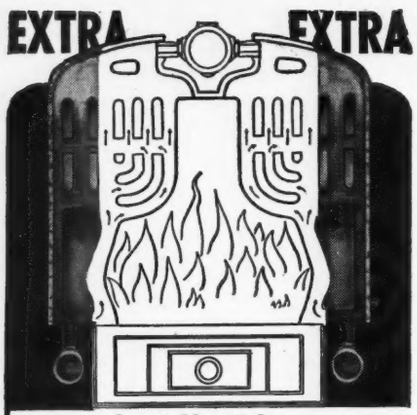
	OILBURNERS				DWELLINGS			
	September		9 MONTHS		September		9 MONTHS	
	1947	1946	1947	1946	1947	1946	1947	1946
Baltimore, Maryland	..	513	..	..	374	312	2307	3421
Binghamton, N. Y.	..	..	..	..	4	13	79	98
Boston, Massachusetts	..	427	..	..	59	2	406	164
Bridgeport, Conn.	154	74	1127	526	..	..	..	..
Buffalo, New York	..	..	..	..	28	14	153	170
Des Moines, Iowa	..	..	..	..	132	136	..	991
Detroit, Michigan	..	226	..	1041	1185	662	7571	6855
Elizabeth, N. J.	101	102	..	573	2	0	78	16
Freeport, New York	45	57	295	326	..	..	..	..
Greenwich, Conn.	..	..	..	..	25	24	170	161
Hackensack, N. J.	..	..	..	..	3	10	28	110
Hartford, Conn.	259	49	1371	591	..	..	..	..
Irvington, N. J.	..	73	..	424	3	0	21	15
Lynn, Massachusetts	..	..	..	..	7	2	83	43
Meriden, Conn.	36	23	259	162	..	..	..	..
Milwaukee, Wisc.	274	111	..	723	164	78	990	1258
Minneapolis, Minn.	326	62	1526	471	169	136	800	1201
Montclair, N. J.	56	55	264	339	..	..	..	..
Morristown, N. J.	..	..	..	..	..	0	..	7
Mt. Vernon, New York	53	80	384	428	..	..	..	..
New Bedford, Mass.	51	27	480	371	..	..	..	..
New Haven, Conn.	76	70	..	305	..	..	..	..
New Orleans, La.	0	0	0	0	..	..	..	..
New Rochelle, N. Y.	43	48	250	265	5	8	57	94
New York City (total)	..	2977	..	30,803	..	..	..	..
Brooklyn-Queens	..	2270	..	25,680	..	..	..	..
Manhattan, Bronx, Rchd	54	707	6692	5123	..	..	..	..
Norfolk, Virginia	84	97	721	342	123	20	632	191
Oakland, Calif.	..	1	..	4	..	..	..	..
Omaha, Nebraska	275	74	1696	674	134	70	648	637
Orange, New Jersey	42	21	206	196	0	0	5	4
Passaic, New Jersey	76	85	..	418	..	..	..	..
Paterson, N. J.	152	112	868	747	12	8	54	51
Philadelphia, Pa.	1758	801	..	4880	..	..	..	..
Plainfield, N. J.	..	..	..	..	8	9	114	80
Portland, Maine	139	73	750	333	14	6	126	87
Portland, Oregon	..	278	..	2235	..	113	..	1684
Poughkeepsie, N. Y.	39	..	..	..	..	..	..	..
Providence, R. I.	93	56	846	729	29	73	118	116
Reading, Penna.	..	..	..	..	3	8	20	88
Richmond, Virginia	166	27	1194	289	60	108	529	1000
Rochester, N. Y.	354	..	2922	..	..	..	..	..
Rockville Center, N. Y.	53	31	..	203	24	13	153	68
Salem, Massachusetts	49	24	248	131	4	1	36	10
St. Louis, Missouri	359	124	2099	553	41	37	275	258
St. Paul, Minnesota	375	144	2326	1003	129	83	800	984
Schenectady, N. Y.	30	48	..	200	..	..	..	..
Seattle, Washington	..	..	..	..	..	254	..	2145
Springfield, Mass.	..	..	..	..	73	30	312	455
Stamford, Conn.	..	33	..	230	..	..	..	..
Syracuse, New York	..	5	..	207	..	21	..	150
Trenton, New Jersey	..	..	..	..	3	8	54	13
Utica, New York	..	..	..	..	12	4	59	32
Washington, D. C.	358	307	2453	1838	..	..	..	..
West Orange, N. J.	..	..	..	..	8	0	71	84
White Plains, N. Y.	..	35	..	221	..	4	..	24
Wilmington, Delaware	159	86	841	493	18	11	84	181
Worcester, Mass.	173	93	1208	532	..	..	..	..
Yonkers, New York	69	1	494	420	..	..	..	..
Totals	4009	3669	28,598	16,749	2855	1886	16,833	17,969
Percent Change	+ 9.3		+70.7		+51.4		—6.3	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

FUELOIL SUPPLY LIMITS: Asked what limits had been placed on them by their suppliers for this coming season, 38% of the fueloil distributors report no restrictions; 18% report that they are limited to the same quantity that they had last season; 29% have been given stated increases, ranging from 5% to 20% over last season. The remaining 15% have agreements with their suppliers to take care of all their customers as of the present time, but they cannot add any new ones. Such a wide variety of restrictions, or lack of restrictions, indicates that not all of the primary suppliers are in similar circumstances as to their supply outlook, with some decidedly more optimistic than others.

Opinions on the general fueloil supply outlook as expressed by dealers in various parts of the country include the following ones as typical: NEW ENGLAND, "Boston

(Continued on page 130)



Read All About It!

H. B. Smith Cast-Iron Boilers are packed with *extra* heating surface . . . you can read all about it in H. B. Smith literature. The *extra* that means real fuel economy is in the many *more* square feet of *direct* fire surface packed into H. B. Smith boilers.

Match this heating surface with that of any cast-iron boiler of equal grate area and you'll see why H. B. Smith boilers extract more value from each fuel unit burned. Conventional cast-iron boilers have *single* water tubes on either side of the fire pot; large H. B. Smith boilers have *two* vertical tubes, leading into many other vertical and lateral tubes that are packed with water backed surface. That means all the flue gases get a chance to scrub along this *extra* heating surface, *more* heat units are transmitted to the water.

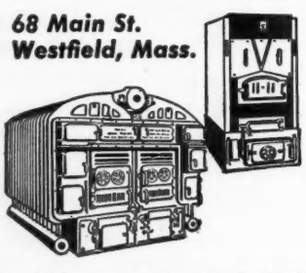
That, too, is why H. B. Smith boilers are outstandingly efficient for automatic firing. There is plenty of heating surface to efficiently absorb the heat generated by intense, blast-like oil, gas or stoker flames . . . even at peak firing rates. *Extra* H. B. Smith heating surface is your guarantee of economical boiler operation.

H. B. Smith

CAST-IRON BOILERS

THE H. B. SMITH CO., INC.

68 Main St.
Westfield, Mass.



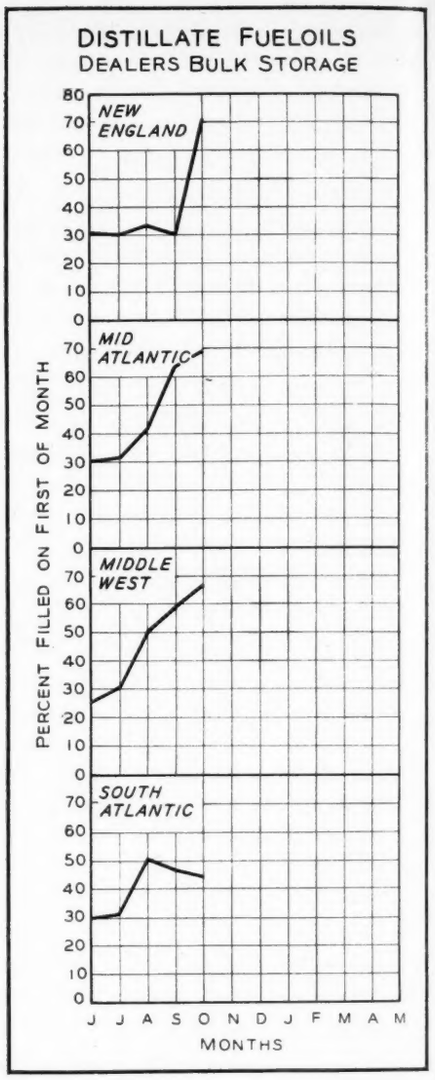
Offices and Representatives in Principal Cities

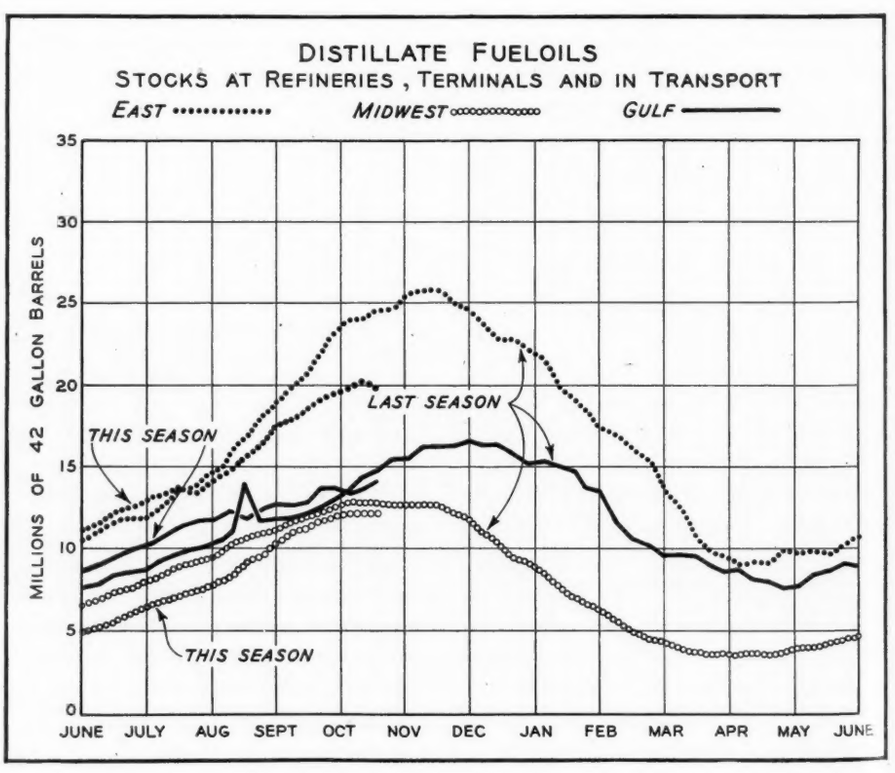
Fueloil Supplies

BECAUSE OCTOBER 1 IS a critical date in the measurement of fueloil supply, being the start of the heating season, dealer supply figures this month are given in detail. In addition approximate customer storage is also shown. For the whole critical area East of the Rockies dealer storage on that date was 65% filled, and customer storage 72% filled.

	DISTILLATES	
	Dealer Storage	*Customer Storage*
NEW ENGLAND		
Capacity (M/Bbl.)	2,171	4,309
On hand Oct. 1	1,541	3,318
%	71	77
MID-ATLANTIC		
Capacity	10,360	9,671
On hand Oct. 1	7,148	6,383
%	69	66
SOUTH ATLANTIC		
Capacity	2,718	1,116
On hand Oct. 1	1,196	368
%	44	33
TOTAL EAST COAST		
Capacity	15,249	15,096
On hand Oct. 1	9,885	10,069
%	65	67
MIDDLE WEST		
Capacity	3,939	6,577
On hand Oct. 1	2,639	5,590
%	67	85
TOTAL CRITICAL AREAS		
Capacity	19,188	21,673
On hand Oct. 1	12,524	15,659
%	65	72

Terminal storage continues to run below a year ago with more recent emphasis on the East Coast as being less favorably situated than the other areas.


DISTILLATE FUELOILS
DEALERS BULK STORAGE
NEW ENGLAND
MID ATLANTIC
MIDDLE WEST
SOUTH ATLANTIC
PERCENT FILLED ON FIRST OF MONTH
0 10 20 30 40 50 60 70 80
J J A S O N D J F M A M
MONTHS


DISTILLATE FUELOILS
STOCKS AT REFINERIES, TERMINALS AND IN TRANSPORT
EAST
MIDWEST
GULF
MILLIONS OF 42 GALLON BARRELS
0 5 10 15 20 25 30 35
LAST SEASON
THIS SEASON
THIS SEASON
JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE

Tennessee Electric Heating

Both Resistance Type and Heat Pumps Compete With Oil in Costs

by
Robert Gray

ELECTRIC HEATING ranks high in ability to provide carefree home comfort. Fortunately for other fuel industries, electricity is much too costly to interest many heating prospects except in regions of moderate climate and those having Government-sponsored power projects, such as the Grand Coulee area in the Northwest or the TVA country of Tennessee.

There is still a lot of oilheating going into Tennessee . . . in fact more than ever as families become aware of the nicer living that goes with automatic fuels. They don't seem to be too particular about which type—or rather it would be more accurate to say that they show little preference between oil and electricity, glad to have whichever is expedient for the particular house or area. Gas and stokers are not too popular in the TVA country.

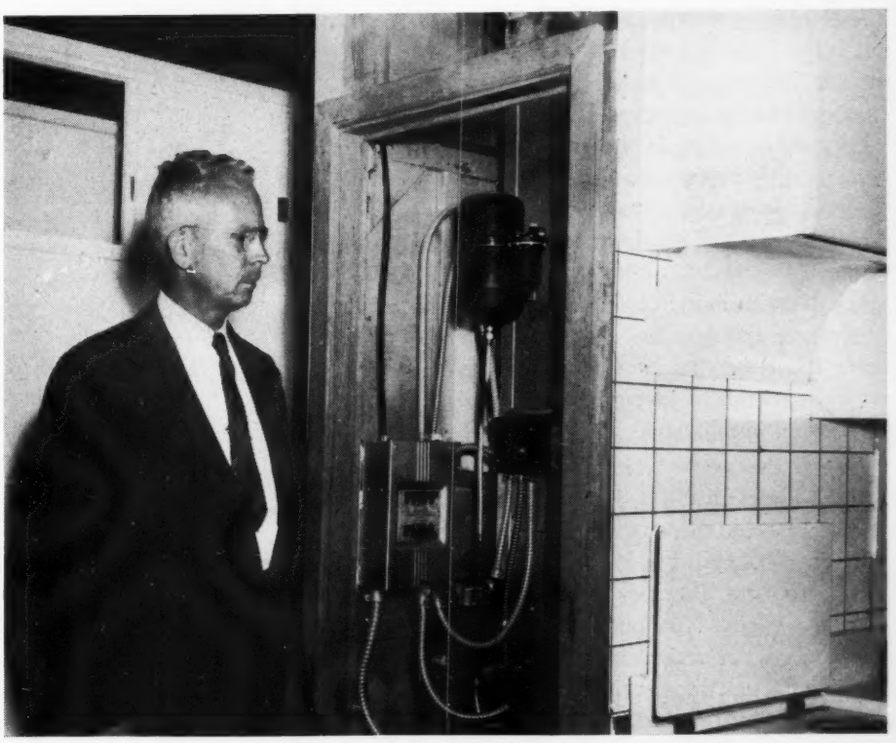
If people are interested in all-electric homes, or in other words, if they like to cook on electric ranges, use electricity for water heating, the family washer and all of the many smaller appliances, they logically want electric heating. After the general household equipment has used the current it needs, the higher current costs on the sliding price scale have been accounted for, leaving the low bracket for home heating.

But sometimes these people can't get the current for house heating, because the lines are overloaded, transformers are unavailable, or for some other reason. Then they are just as glad to have oilheating.

Stuart Fonde, well known builder of Knoxville, has proven to his own satisfaction through a lot of fuel cost research that electricity is the ideal heating fuel in his area. Yet he is at present installing only oilheating, for he has designed all of his homes now under construction around a central plumbing-heating core, called the "Ingersoll Unit," made by Borg-Warner. He buys a wall section, having on one side kitchen equipment such as electric range, sink and refrigerator, and on the other side complete bathroom equipment. It would be more correct to say that he buys a double wall, for actually there are two walls in the unit, and in between them is a passageway for service access to all the piping and wiring, and also a water heater with tank and an oil-fired forced warm air heating plant. These units cannot be had with electric heating equipment, hence the oilheating . . . and the buyers are fully satisfied to get it.

But this is to be a story of electric heating, and what a fond Government has done for the "underprivileged" of the mid-South, by blessing the folks with a Tennessee Valley Authority. Spending a few days with industry men in the state brought to light a curious, but interesting state of mind regarding TVA. There is no denying that cheap electricity has brought better living to most of the folks. Riding through the country at night, the farmhouses and yards are lit up like Coney Island.

The Tennesseans, however, are unhappy about the way it was brought to them, with all of the implications that something must be done for the lower third of our populace, the under-clothed, the under-housed, the under-fed. In meetings at the time the project was first launched speakers inferred, if not said, that it was high time something was done



Stuart Fonde, *Knoxville builder, an electric heating convert, is using oilheating now because it comes with the Ingersoll Units, around which his homes are designed. These units include all of the necessary plumbing and heating, as well as electric kitchen equipment.*

for the poor folks, and this was it. They didn't make a hit.

Tennessee people are not proud . . . they're self-reliant. A lot of them lacked home comforts, but were content that way until they could afford better. They weren't "beholdin to no one." So they take their electricity with some misgivings, all along the line.

Moreover, they're slow to make changes until they're sure of a thing. Fonde, the Knoxville builder, found that out when he broke with tradition back in 1939 and built "Century Court," an oil-heated housing project.

Guaranteed Fuel Bills

Housing developments had always been coal heated, and the new group wouldn't sell. Folks had heard about the early oilburners of the twenties that cost a fortune to run and couldn't be fixed when they broke down, because they had been put in by miscellaneous outlets that didn't know how to handle them. To sell the homes, Fonde eventually had to guarantee all of the fuel bills. The houses had everything to hold the heat . . . they were virtual thermos bottles. Fonde's guarantees ranged from $50 to $75 for the season, averaging for the lot $58; the actual fuel bills averaged $38. Normal degree days in Knoxville are 3,670.

On the Tennessee safari to learn about electric heating, Chattanooga was first explored because considerable heat pump work has been done in the vicinity. The prime mover in this type of thinking is C. B. Osborne, sales manager of the Electric Power Board of Chattanooga, the municipally owned utility, which buys much of its current from TVA. Osborne generously left his desk for an all-day drive about the city, providing access to several varieties of electric heating and heat pump installations.

When the war started, Chattanooga had 25 electrically heated homes. Today it has 1,200, and there are another 700 installations ordered, but held up for lack of transformers. There are ten heat pump jobs in the city. The popularity of the conventional, or resistance type, electric heating started through inability to get oilburners.

Oilburners were becoming favorably known in Chattanooga during the thirties; then when war industry pay envelopes made possible some steps in the direction of better living conditions the folks thought of oilburners, but couldn't get them. Some of those families bought electric heating. When war ended and the bars were down, a lot of families wanted oilburners and still couldn't get them, but they could, and did, get electric heating. There is now so much prospective business in the city for both oilheating and electric heating that the two are hardly competitive . . . they're contemporary.

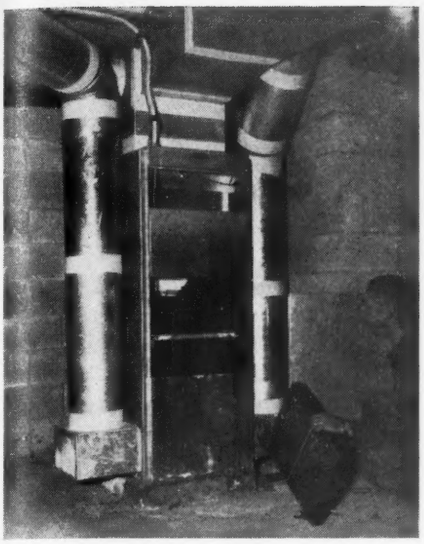
Chattanooga electric costs are low:

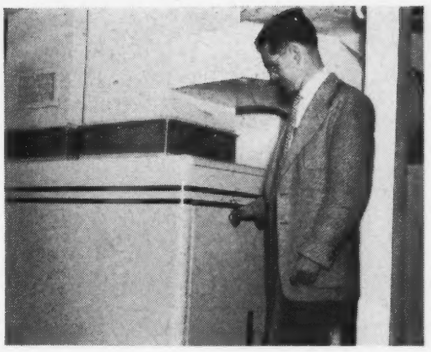
Monthly Rates

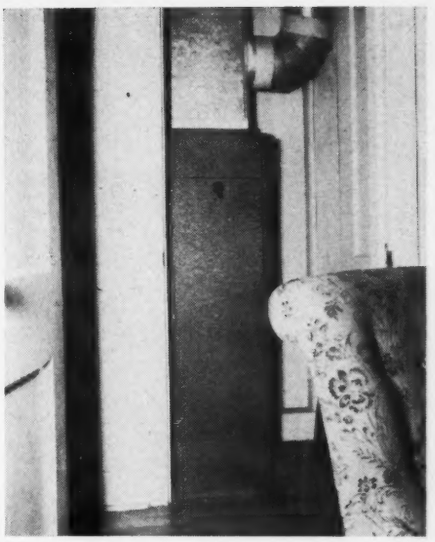
First 50 KWH.....3¢ per KWH
Next 150 KWH.....2¢
Next 200 KWH.....1¢
Next 1000 KWH.....0.4¢
Over 1400 KWH.....0.75¢

Schedules of other utilities throughout the state are similar. It is interesting to notice that after 1,400 KWH are used the rate reverses and moves upward. The stated reason is that the small house owner, with limited income, gets in on the lowest rate, while families in larger homes can usually afford higher rates, and in

Three Fuels *were used in these builder developments. In the top picture, the $5,500 homes use electric heat in a floor furnace. The middle picture shows homes that use butane gas for heating and cooking. Notice the 250 gallon tanks against the foundations. Butane at 15¢ a gallon contains 101,000 Btu's. The bottom picture shows one of Fonde's houses built around the Ingersoll unit, selling for $9,200.*







Electric central *heating in Chattanooga. At left is an inexpensive forced-air unit; above is a more costly unit found in one of the fine homes on Lookout Mountain; at right is a closet installation in a basementless home.*

that way give the utility the average overall rate that it needs for profit. On the other hand, if the lowest rate, four mills, was not in the structure, less total current would be sold and capital costs spread over the lesser demand would slightly raise all of the rate brackets.

The table, "Costs of Resistance-Type Electric Heating," shows experience of several seasons in groups of homes at Chattanooga and Knoxville. The fact that there were fourteen homes in each study is simply a coincidence. All of these homes were insulated with four inches of rock wool, or equivalent, both walls and ceilings, and they all had weatherstrips. They did not have stormsash for these are not commonly used in the area. The electric rates for the two cities are not identical but quite similar. It is interesting, then, to notice that the cost of the Chattanooga group on the last line shown in the table runs around 44% above the Knoxville group. In other words the Chattanooga homes used for heating 0.462 KWH per thous. cu. ft. per Degree-Day, while in Knoxville the rate was 0.320 KWH. There are a number of reasons for this difference. All put together they show why it is often so difficult to estimate heating cost, not only for electricity but with any type of fuel.

Notice first that in Chattanooga the average size of the homes was considerably larger than at Knoxville. Also in Chattanooga they were not all one building development, but rather represented a variety of home styles scattered throughout the city. At Knoxville the homes were all built by one company, were compactly designed, and were planned as all-electric homes. This last factor is evident in the figures shown for the amount of electricity used for domestic purposes. Notice that in the Knoxville group this was 6,435 KWH, while at Chattanooga it was only 5,354 KWH.

In an all-electric home the electric stove, the water heater, and any other types of resistance appliances all contribute a substantial amount of Btu's to the air in the house. This moderates the load on the heating plant. Another important factor in the differences in experience between the two city groups is the fact that at Knoxville all, or nearly all, of the homes had no basements, and the type of electric heating unit used was the individual wall unit in separate rooms. These wall units are designed to circulate the air within the room and moreover they have individual thermostats which provide for each room just the amount of heat it needs. It is generally recognized that the individual room electric heater saves 15 to 20% in heating bills as compared to the central heating plant. The Chattanooga homes, on the other hand, had basements and central heating.

In estimating electric heating in other areas the last line of the table can be used. The Chattanooga experience figure shown in that line would probably be more applicable to the average insulated home than would the Knoxville figure for the several reasons explained.

As mentioned earlier Chattanooga probably has more heat pumps in residences than any other single city in the country, although it only has a handful. Some study was made of the heat pump installation in the residence shown in the accompanying photograph. This residence has six large rooms. It has had one full season, both winter and summer, with the heat pump. The electric current cost for heating the house last winter was about $58 and for cooling this summer $16.

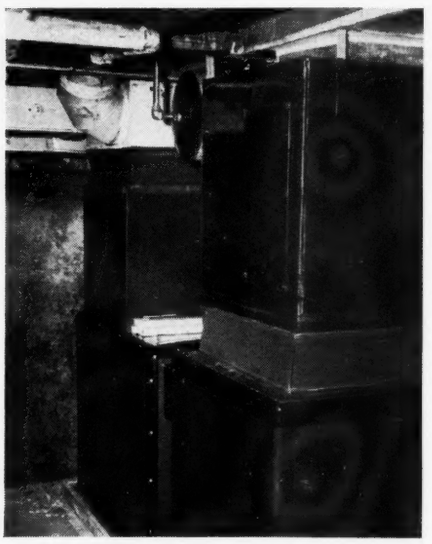
The thermostats that control heating and cooling do not look like the typical oilheating thermostat.

Costs of Resistance-Type Electric Heating

	14 Homes Chattanooga	*14 Homes Knoxville*
Number of seasons used	5	3
Home sizes—cubic feet, average	8,312	6,304
Electricity used for all purposes, average KWH	17,314	13,655
Average cost	$145.04	$121.83
Average cost per KWH	.84¢	.89¢
Electricity used for domestic purposes, average KWH	5,354	6,435
Average cost	$72.59	$82.91
Average cost per KWH	1.36¢	1.29¢
Electricity used for heating, average KWH	11,961	7,410
Average cost	$72.45	$38.92
Average cost per KWH	.61¢	.53¢
Degree Days	3,118	3,670
Average KWH per thousand cu. ft. per degree day	0.462	0.320

C. B. Osborne, *general sales manager, Chattanooga Power Board, with an electric wall heating unit. Providing both radiant and convection heating, also equipped with thermostats for individual room control, this equipment saves 15 to 20% over central heating systems in fuel costs. Osborne is probably the country's No. 1 heat pump enthusiast, and is responsible for Chattanooga having the most in use.*

The Chattanooga home *above is equipped with the heat pumps shown below. Last winter's heating cost $58; this summer's cooling cost $15.*



It is not possible to walk up to them and change the setting by simply moving a pointer or a disk. It is necessary to remove the metal cover and use a special key to change the temperature setting. In this particular home, the thermostat was held at 75° for the full twelve months. The heaviest heating load encountered was based on a 15° outside temperature, and the heaviest cooling load this summer occurred when it was 105° outdoors. Obviously, a 30° drop between summer outdoor and indoor temperature is questionable practice, but this particular family liked it and wouldn't go through another summer without it.

There has been a great deal of discussion about the "Coefficient of Performance" on heat pump systems. The engineers who described these systems usually rate this COP factor at anywhere from three to five. By this they mean that with the heat pump they are only using one-third to one-fifth as much electric current as they would use in doing the same job with common resistance heating. Actually, on this particular installation the coefficient of performance for the whole year was about two. An engineer for the power company estimated that heating this house with resistance units would have cost about $110 whereas previously mentioned it cost $58 with a heat pump.

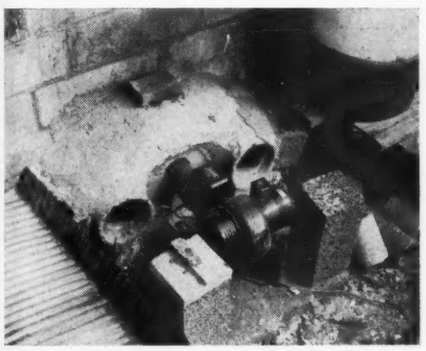
The principal drawback to selling heat pumps is price. The three horsepower installation in this home would sell today for close to $3,000, including ductwork and including a well 235 ft. deep. The cost of drilling the well alone is four dollars a foot. To offset some of this cost about $500 has been saved on recent installations by using a series of buried tanks instead of a deep well. By the tank method an excavation is made only seven feet deep and in this are placed six tanks each eighteen inches by eighteen feet, connected in series. In either the heating or cooling function the water circulates through the whole lot of the tanks.

In the Chattanooga area the normal water temperature is about 60°. In the winter operation of a heat pump in which this water is circulated through a heat exchanger it gives up about eight degrees of this heat and then goes back in the ground to regain it. On the reverse, or cooling, cycle the water takes on about eight degrees of heat and then goes back to the ground to lose it. It is generally believed by those handling this equipment that costs will drop in half after the industry gets rolling to the point of mass production. Meanwhile sales are pretty much limited to high-income families, who are attracted more by the summer cooling facility than by the winter heating arrangement. Thus, it is understandable that some prominent analysts expect heat pumps to grow in public favor just about as fast as the general idea of summer cooling in homes is able to grow.

In looking around at the Chattanooga installations, one in particular is noteworthy . . . at Happy Valley Farm in the nearby countryside, where the more or less palatial country home has three heat pumps, two of three horsepower capacity and one of five horsepower. Such an installation probably cost around $13,000 or $14,000 and again must be looked upon as an expenditure for summer comfort. The point here is that while heat pumps save money on winter heating they could save the entire heating bill without making too much impression on families able to afford such expensive installations. Heat pumps will be most successful in areas where the heating and cooling loads

are nearer equal, since under those conditions minimum sized equipment can be used. Otherwise, the equipment must be seriously oversized and of course correspondingly more costly.

Stuart Fonde at Knoxville has also installed heat pumps, although he is convinced that for his purpose as a builder of housing developments such equipment is too costly. He took a loss on the houses where he installed the heat pumps. He expected to do this from the start, but he is the type of builder who wants to experiment at least once with every new facility that appears practical. An example of this is the fact that he is the only builder in the country thus far to have installed a residential job of Uskon heating. Uskon is radiant heating from the ceiling, using electric fuel. It was developed by U. S. Rubber Company and has had a number of industrial applications but so far only that one in a residence. Large sheets of rubber are impregnated with carbon particles in such a way that electric current will flow evenly through the whole surface. The ceiling of the home has large sheets of this impregnated rubber with metal bindings along the two opposite edges of each sheet to which the electric wiring is attached. The current flows into the metal edging and then across the entire rubber sheet, encountering enough resistance to create heat. The ceiling made up of these electric-rubber sheets is covered with either wallboard or plaster and looks just like any other ceiling. Fonde believes that this system provides a more even type of heat than he has otherwise encountered since the radiation is uniform for every square foot of the ceiling surface.



Oilheated Drykiln. *At Fonde's Knoxville headquarters, shown below, he has a hardware and paint store, lumber yard and planing mill. With an oilheated drykiln he seasons native pine. The Hart burner shown is outside the kiln. It fires into a cylindrical brick-lined combustion chamber and from there into the kiln. Running the length of the kiln under the lumber, down the center, is a 16 inch galvanized culvert pipe, sealed at both ends. The combustion gases go into this pipe and then out through four sets of holes spaced along the pipe. Directly above the pipe is a corrugated iron baffle to deflect the heat more evenly under all of the lumber. The combustion gases rise up through the lumber, drying it. A thermostat controls the burner. Temperatures at various drying stages vary from 125 to 160° F. Fonde says that with this arrangement fuel costs are less than half those of any other method he has tried. A ventilating system inside the kiln requires use of the two openings shown.*

Men With Imagination

Most of the impressions in this story were gained from the time spent with Osborne at Chattanooga and Fonde at Knoxville, definitely unusual individuals in their capacity for imagination and in their ability to get people to believe what they say. It is reasonable to expect that Chattanooga will continue to lead in heat pump installations because of Osborne's enthusiasm for them and certainly they will provide a lot of comfort through hot, sticky summers, not to discount their heating capabilities. Fonde, who started as a builder in 1938 on a very small scale, has become a large operator primarily through his unique business philosophy. His organization fully understands that it is a company policy to see how much value and convenience they can put into an individual house and while he does provide exceptionally attractive homes at lower than average cost be able to find he is yet able to carry a fully satisfactory profit in them. His basic policy has caused him to do a great deal of experimenting with all types of home improvements and to follow through from year to year long after the houses are sold in order to understand operating costs and how these various facilities are standing up.

Electric heating in any area is only of incidental interest to oilheating dealers in parts of the country where electricity is too high-priced to be competitive. However, quite a number of people believe that electric heating will gain a usage considerably more rapidly than in the past. Not only is the Government planning many hydroelectric projects but, perhaps more important, the coal industry is looking to electric heating, with current generated at the mine as one of the ways to bolster its declining fortunes. It is reasonable to expect that electricity will be competitive with fueloil in quite a number of markets before many years.

FHA Mortgage Insurance Not Dependent On Fuel Supply

REPORTS HAVE BEEN CURRENT that Federal Housing Administration would not insure mortgages on new homes where a full year's fuel supply was not assured. No such ruling has been issued from Washington, though officials point out that local FHA managers may refuse to insure mortgages in their areas if any home is dependent on a fuel that is not available. This rule was invoked in some areas of the Middle West and Long Island last winter when local utility companies refused to connect new gas designed heating plants to their overloaded lines. It is possible that the managers in some areas may rule against gas, oil or coal heated homes this winter if the supply of any of these fuels becomes acute.

In the case of oil and coal it has not been customary in recent years for any supplier to guarantee a full year's supply of fuel. Coal seldom is delivered on an annual contract, and oil contracts at present do not carry a guarantee of supply. Competition keeps fuel dealers alert to hold customers, and none will be refused if it is possible for the dealer to take the offered business. Public gas utilities with a definitely limited plant capacity have been refusing new central heating load with the permission of state Public Service Commissions. Where gas heating load is being refused due to overloaded lines, FHA may continue to refuse mortgage insurance to new gas-heated homes. It would be difficult to establish the fact that oil or coal is not available for any home, and it would be equally hard to get a guarantee of a full year's supply.

Aluminum for Warm Air Ducts

Substitute for Galvanized Sheets Proving Easy to Work

LONG before heavy steel sheets for oil storage tanks disappeared from the market, dealers were experiencing increasing shortages of light galvanized sheets for warm air duct work. Shortages of zinc during the war and the increasingly short supply of steel since the end of the fighting have conspired to keep warm air dealers in hot water. The result has been, as usual, substitute materials.

One substitute,—sheet aluminum,—seems now to have carved a permanent place for itself in the warm air market. Aluminum ducts and fittings probably will be with us long after steel salesmen start again to ask for orders.

The aluminum industry expanded to enormous proportions during the war. It required a big industry to get out the tonnage of metal required by the aircraft industry alone, and plants were built and production expanded during the emergency without regard to the peace-time market. But American businessmen do not lock up facilities and walk away simply because there was no former market. Such waste is unthinkable in a free economy, so a search was started for new uses for the great aluminum capacity that had been developed. The result has been a line of aluminum alloys to fit a wide variety of needs formerly satisfied by other metals. Many of these new uses employ aluminum as well or better than the former metals. Aluminum for air trunks and ducts is one of these, and aluminum for basement and buried tanks may be another. There is an increasing use of aluminum for boiler and furnace jackets, tubing and oilburner parts.

Cost of aluminum in cents per pound is high, compared with steel, but since both metals are bought on a per pound basis, aluminum being only a third the weight of steel for the same size and gauge of sheet, it can stand almost three times the per pound price of steel. There are numerous other advantages that add to the desirability of the lighter sheet.

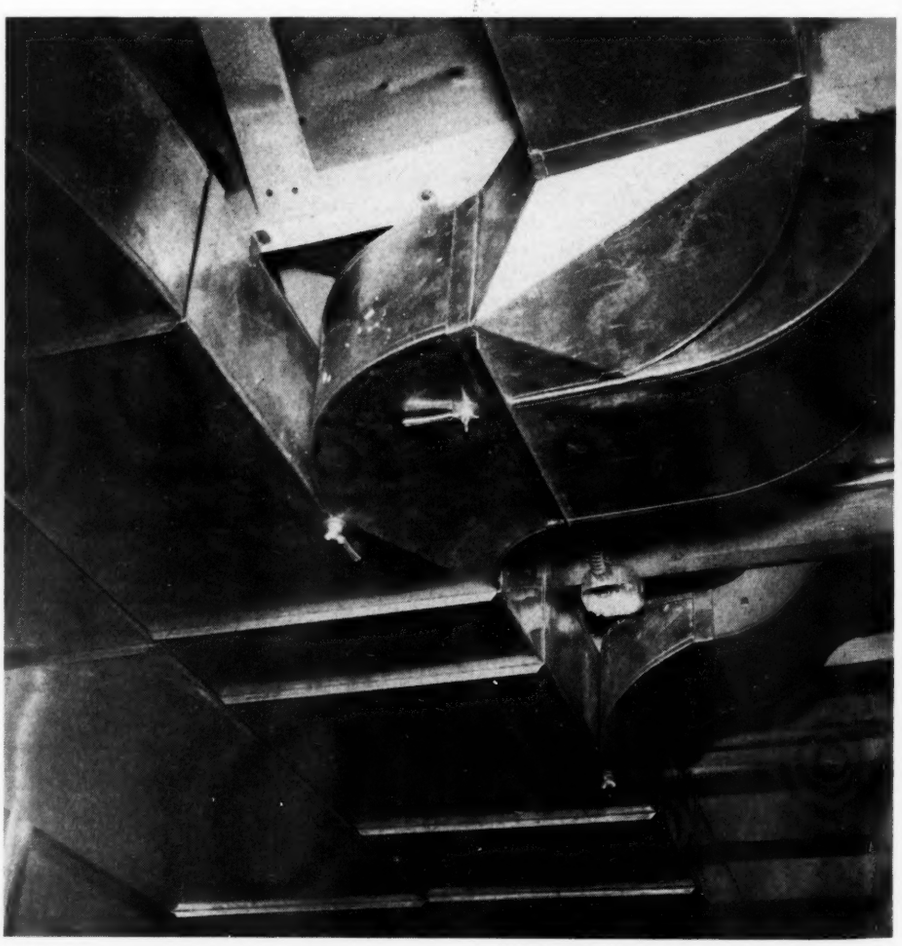
Aluminum ducts do not require finishing. They are originally of a bright finish, which with aging gives a soft silvery finish that need not be painted. The bright surface, inside and out, not only reduces the resistance to air flow in the duct, but cuts the heat loss from the duct itself. According to G. W. Birdsall of Reynolds Metals Company, heat loss from an aluminum duct is only 4% to 5% of the loss from a theoretically perfect "black body" radiator, compared to 23% to 28% for galvanized steel, and 80% to 85% loss from black steel sheet. Aluminum also is resistant to corrosion and will not rust.

It is also claimed that aluminum is an acoustically dead material, so that aluminum ducts are noticably quieter, transmitting less noise from burner and blower.

Let's look at some cost figures. Galvanized sheet 36 inches wide, 24-gage (0.0239), weighs 1.156 pounds per square foot. Aluminum sheet recommended for similar duct work is 2S-¾H, 36 inches wide, 0.025-inch thick; weighs 0.353 pounds per square foot. Cost of the galvanized stock at $0.0705 per pound (carload delivered) is $0.0815 per square foot. The aluminum at $0.246 per pound is $0.0868 per square foot. The aluminum costs only 6½ per cent more.

This difference is easily made up in economies from lowered scrap losses, actual man-hour savings in fabrication and erection, reduced cost of supporting structure and its erection, etc. The end result is that many sheet metal men claim aluminum costs no more installed and can frequently be proven the most economical when viewed from all angles.

Galvanized stock arrives with rough ragged edges from galvanizing. In fact,



Aluminum ducts and fittings *can be made to any shape or specification. Standing seams add rigidity to wide trunks.*

it is necessary to shear the edges before the stock can be used in lock formers and the like. The minimum amount of metal that it is practical to shear off is about ¼-inch. This means that two strips ¼-inch wide and the full length of the sheet must be cropped off every galvanized sheet befort it can be used . . . a direct material loss of 2% on 24-inch wide sheet.

Commercially pure aluminum in the ¾H temper (2S-¾H) can be used for practically all residential, commercial and industrial air ducts and is recommended for all duct work. It readily takes a Pittsburgh lock seam and is most workable. Yet it has sufficient strength and rigidity to do the job. Some users may prefer 2S in the ¼H or ½H tempers.

For large ducts where somewhat more strength may be desired, some sheet metal men select 3S in the ½H or ¾H temper. The temper chosen is closely related to the thickness used, since the higher tempers are accompanied by considerably higher mechanical properties, as is evident from the values shown in Table 1. Thus it is possible to use thinner material in the higher tempers, provided the joint designs do not demand maximum bendability.

Table 1

TYPICAL MECHANICAL PROPERTIES OF ALUMINUM FOR DUCT WORK

Alloy and Temper	*Tensile Strength psi*	*Yield Strength psi*	*Shear Strength psi*	*Fatigue Strength psi*	*Brinell Hardness No.*	—MIN. ELONGATION IN 2 INCHES— —PER CENT THICKNESS–INCHES— *.006-.007*	*.008-.012*	*.013-.019*	*.020-.031*	*.032-.050*
2S-¼H	15,000	13,000	10,000	6,000	28	..	..	3	4	6
2S-½H	17,000	14,000	11,000	7,000	32	..	1	2	3	4
2S-¾H	20,000	17,000	12,000	8,500	38	1	1	1	2	3
2S-H	24,000	21,000	13,000	8,500	44	1	1	1	2	3
3S-¼H	18,000	15,000	12,000	8,000	35	..	..	3	4	5
3S-½H	21,000	18,000	14,000	9,000	40	..	1	2	3	4
3S-¾H	25,000	21,000	15,000	9,500	47	1	1	1	2	3
3S-H	29,000	25,000	16,000	10,000	55	1	1	1	2	3

Remember that 2S-H and 3S-H (full hard), while excellent for many jobs, do not have the formability of the lower tempers.

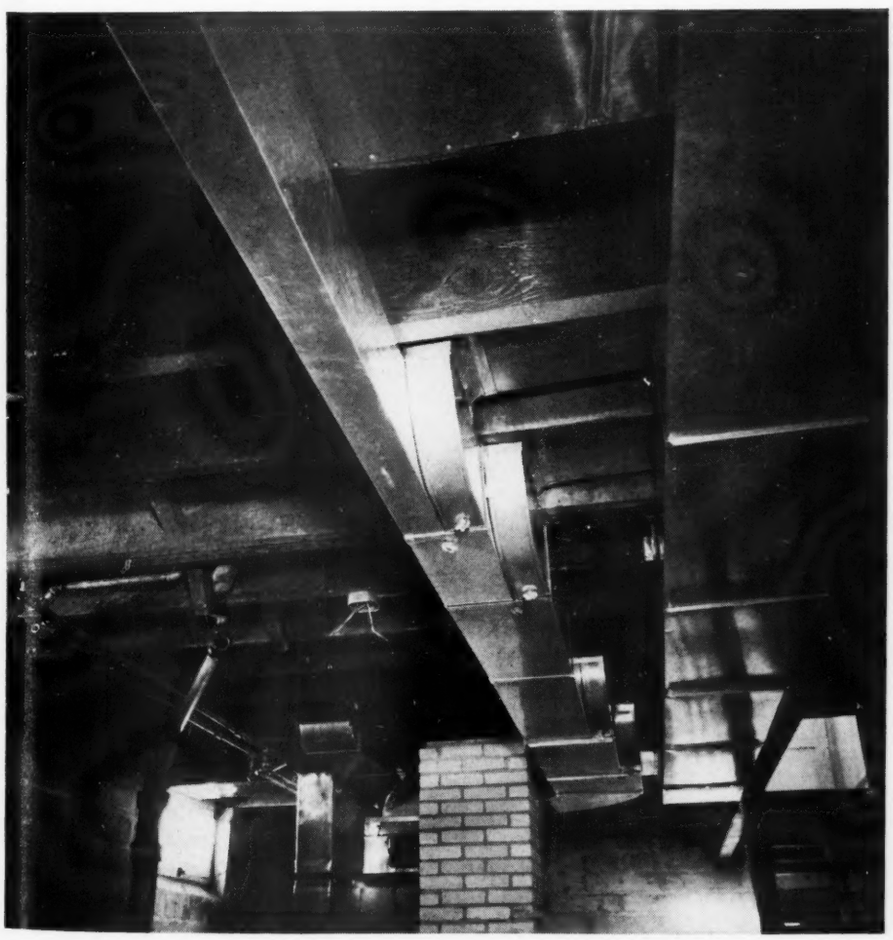
In any case, it must be remerbered that aluminum is not a single metal but that the aluminum alloys (commonly included when referring to "aluminum") constitute a whole family of metals, differing widely in their formability, strength and stiffness. The purer alloys, such as the 2S and 3S recommended, are the most workable. In no case should any attempt be made to use surplus aircraft aluminum (24S-T) or the other high-strength alloys as these will be found too hard and brittle to put through lock forming machines. The 2S and 3S, however, will lock form without wrinkling or tearing but must be kept moving through the rolls to prevent "sticking."

The thickness is determined directly by the amount of rigidity required in the metal . . . and that, in turn, depends directly upon the mechanical construction followed in designing the duct. Seldom is it necessary to utilize aluminum in a thickness sufficient to give the same rigidity found in the galvanized formerly used. For elbows, tees and other fittings where mechanical strength in the metal is not a factor (due to the shape of the part), it is customary to substitute equal thicknesses of aluminum for galvanized.

For residential heating and air-conditioning where runs are comparatively short and pipes and ducts are of small section, a slight increase in thickness is recommended for aluminum ducts.

Before getting into comparative sizes of aluminum and galvanized, it should be explained that the two materials employ different gage systems. Aluminum sheet thicknesses are based on the *American* or *Brown & Sharpe* system; 20-gage aluminum sheet is 0.03196-inch thick (plus or minus commercial tolerance).

Galvanized gage specifications refer to a certain weight per square foot. This weight is obtained by adding 0.156-pounds per square foot (the weight of a zinc coating meeting the minimum specification of 1.25-ounce per square foot on each side of the sheet) to the weight of black steel sheet of a thickness corresponding to that size in the Manufacturers Standard system. Specifications of 20-gage galvanized thus call for a weight of



Attractive appearance *of aluminum runs makes other finish unnecessary.*

Table 2

WEIGHT OF ALUMINUM COILS IN POUNDS

Arbor Size	COIL WIDTHS					
	24-Inch		30-Inch		36-Inch	
Inches	Min.	Max.	Min.	Max.	Min.	Max.
10	420	840	525	2800	630	2800
12	420	840	525	2800	630	2800
16	780	1560	975	2800	1170	2800
20	780	1560	975	2800	1170	2800

1.656 pounds per square foot, obtained by adding 0.156 to 1,500, the weight per square foot of 20-gage (Mfrs Std) black sheet.

Actual thickness of galvanized sheet thus corresponds to the thickness of the black sheet (according to Mfrs Std gage) plus the two layers of zinc. The two layers of zinc add an average of 0.003-0.004-inch to the sheet thickness. However the zinc coating contributes very little to the strength of the sheet, so for strength calculations, the thickness of the base sheet must be used. Thus for purposes of comparison, aluminum gage thicknesses according to B & S system must be compared with galvanized thicknesses according to the Mfrs Std system.

On this basis, 20-gage aluminum is 0.03196-inch thick while 20-gage galvanized is 0.0359-inch thick. It is evident that to get equal effective thickness, it is necessary to go to a lower gage number for the aluminum, 19-gage (0.03589-inch) in this case. Table 3 shows actual thicknesses for both aluminum and galvanized sheet from 15 to 35-gage inclusive.

Table 4 gives recommendations for gages of 2S-¾H aluminum that can be substituted for gages of galvanized for heating, ventilating and air-conditioning duct work. This is the alloy and temper recommended for general duct work. Where pipe diameters are comparatively small and where runs are comparatively short as in residential installations, use the thinner end of the range shown for aluminum. For commercial and industrial duct work, furnace plenums and other applications where more strength is required, go to the thicker end of the range shown for aluminum.

Where a rigidity equal to that of galvanized is needed, going to the thick end of the aluminum range will take care of that requirement. However, equal rigidity is seldom necessary and often can be obtained more economically by varying the structural design of the duct work rather than by "beefing up" the material.

Use of standing seams on ducts over 24 inches wide adds rigidity. Diagonally braking large areas also stiffens the duct against "ballooning" and "oil can" effects. Longitudinal braces of "L" or "U" section bent up from sheet greatly increase rigidity, especially when tied in with standing seams. Longitudinal bracing is usually employed only on ducts more than 48 inches wide.

Usual duct designs employ standing seam cleats across top and bottom, drive or "S" cleats on sides. The tendency of aluminum to "stick" here is alleviated by making a somewhat looser lock on the drive cleats.

Many sheet metal shops going to aluminum order flat sheet, the same form as galvanized. However a number of important economies are obtained by purchasing aluminum in the form of coiled sheet. First, coiled sheet costs 2 to 3 cents less per pound at the mill. Second, scrap is almost negligible because there is no waste from short ends when working from a coil.

Third, it permits bulk handling of the metal from railroad car to unloading

(Continued on page 136)

Table 3

GAGE SYSTEMS FOR ALUMINUM AND GALVANIZED STEEL SHEET

Gage No.	Aluminum American or B & S	Galvanized Core Only Manufacturers Standard Thickness In Inches	Galvanized Core Plus Coating Approximate Thickness
15	0.05707	0.0673	0.0703-0.0713
16	0.05082	0.0598	0.0628-0.0638
17	0.04526	0.0538	0.0568-0.0578
18	0.04030	0.0478	0.0508-0.0518
19	0.03589	0.0418	0.0448-0.0458
20	0.03196	0.0359	0.0389-0.0399
21	0.02846	0.0329	0.0359-0.0369
22	0.02535	0.0299	0.0329-0.0339
23	0.02257	0.0269	0.0299-0.0309
24	0.02010	0.0239	0.0269-0.0279
25	0.01790	0.0209	0.0239-0.0249
26	0.01594	0.0179	0.0209-0.0219
27	0.01420	0.0164	0.0194-0.0204
28	0.01264	0.0149	0.0179-0.0189
29	0.01126	0.0135	0.0165-0.0175
30	0.01003	0.0120	0.0150-0.0160
31	0.008928	0.0105	0.0135-0.0145
32	0.007950	0.0097	0.0127-0.0137
33	0.007080	0.0090	0.0120-0.0130
34	0.006305	0.0082	0.0112-0.0122
35	0.005615	0.0075	0.0105-0.0115

Table 4

EQUIVALENT SHEET THICKNESSES FOR DUCT WORK

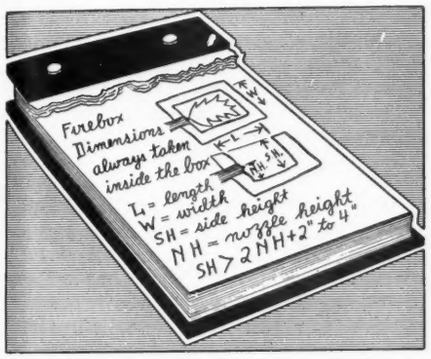
Galvanized		Aluminum	
Mfrs Std Gage No.	Thickness Inch	B & S Gage No.	Thickness Inch
18	0.0478	13	0.07196
		16	0.05082
20	0.0359	16	0.05082
		19	0.03589
22	0.0299	17	0.04526
		20	0.03196
24	0.0239	19	0.03589
		22	0.02535
26	0.0179	22	0.02535
		25	0.01790
28	0.0149	24	0.02010
		26	0.01594
30	0.0120	25	0.01790
		28	0.01264
32	0.0097	27	0.01420
		30	0.01003
34	0.0082	28	0.01264
		31	0.008928

Solving Special Firebox Problems

How to Obtain Clean Stable Flames on Large Installations

by
J. W. Schulz

EDUCATING HIMSELF in the technicalities of oilburner fireboxes, a man usually learns first to design fireboxes for flames of about 1.25 to 1.35 gph up to about 2.5 gph, for these are the flame sizes needed for most house-heating installations. If he



makes CO_2 tests of every newly-started installation as he should, he learns quickly that for best results the fireboxes must be carefully sized, designed, and constructed, even for homes of the ordinary sizes. Improper firebox design and construction generally is involved where house-heating costs are 50% to 100% higher than they should be, and where a burner cannot be adjusted for higher than 5% or 7% CO_2 without the chimney's showing smoke or the furnace or boiler flues' accumulating a layer of fluffy soot within six months.

The man newly interested in building fireboxes usually learns next that very small or very narrow furnaces and boilers present special problems. After bitter experience he may conclude, for example, that there's no use trying to make his pet oilburner perform well with a round firebox smaller than about 11" diameter, or with a rectangular firebox narrower than about 9". The minimum diameter and width for the firebox is different for burners of different design, but those minimum dimensions fit many makes of pressure burners.

The neophyte in fireboxing advances finally to the big projects he dreamed of from the start, that is designing fireboxes for large burners which fire, say, upwards of 5 gph.

For most dealers, starting up a big burner for the first time is an event, especially if the fire size is over 8.0 or 10 gph. Before the fire is started, a dealer can know the oil piping and the electric wiring are right; these parts of the job can be tested easily without firing the burner. The important question about a new big installation concerns the flame. Will it be quiet, stable, clean-burning, and efficient?

The answer to this question depends on burner design to a great extent. Large pressure burners have more tricks in them than small pressure burners. In the realm of high gph rates, it is more difficult to design pressure burners to give clean, silent, stable, efficient flames. Granting that, these two important points must be considered in test-firing for the first time a very large pressure burner. First, to perform at its best, a well-designed burner must have an excellent firebox. Second, a large pressure burner which is not outstanding in its design may give flame and combustion trouble with an ordinary firebox, but may perform splendidly with an exceptionally good firebox.

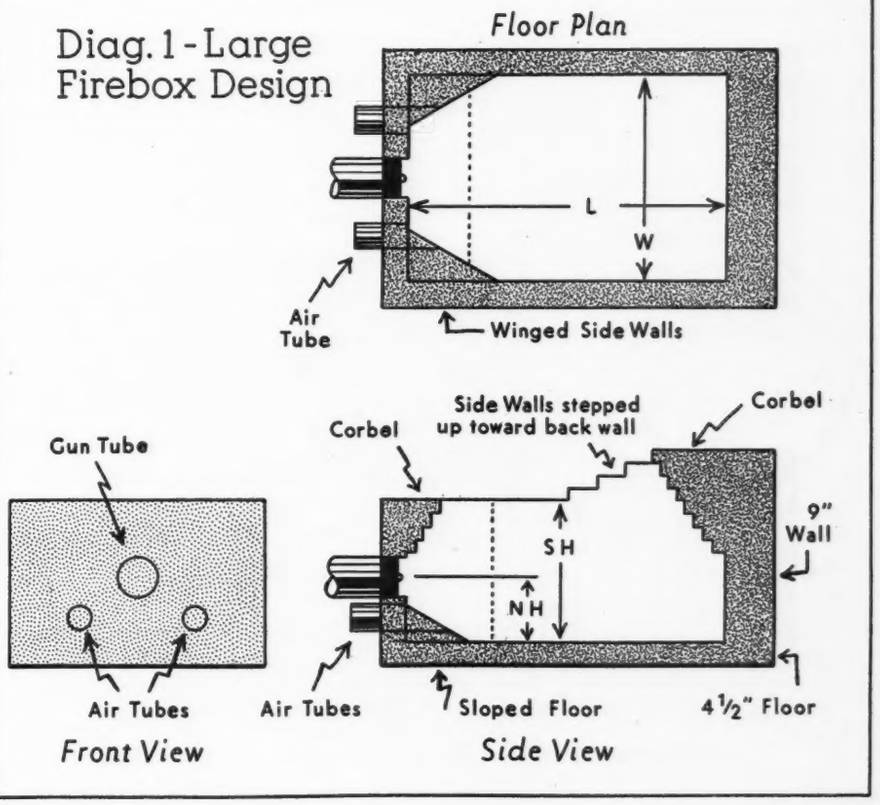
The flame and combustion troubles of large installations usually involve:

1. Inefficient combustion. The burner can't give clean burning (no chimney smoke) together with a CO_2 reading of at least 8% or 10%.

2. Incomplete combustion. The flue passages of the boiler or furnace do not stay clean enough, in six months of burner use, for the burner dealer to be proud.

3. Flame roar or pulsation. Either there's a blowtorch sound from the flame, or changes in the boiler room air pressure which one dealer calls "silent panting." The panting may tend to rattle doors and windows in the building. Often it loosens the asbestos insulation on the sides of a cast-iron boiler.

Diag. 1 - Large Firebox Design



4. The flame "leaves the nozzle." Usually this trouble is most pronounced when the burner starts with the firebox cold. The burner starts and seemingly the flame burns well. Then, if the ignition is intermittent, the spark stops and the flame no longer burns close to the nozzle. The atomized oil starts burning six inches or more from the nozzle. In aggravated instances, the fire burns only in the back of the firebox; there is no fire in the front half of the firebox. At its worst, a "leaving flame" goes out altogether after the spark stops, and this, of course, properly creates apprehension in the heart of even a hardened service expert.

The best installations of large pressure burners give efficient combustion as shown by CO_2 readings of 10% to about 13%. (We'd really rather top that at 12% for actual installations not visited by service men for six months at a time, but that would bring protests from dozens of burner experts who would swear that they have many large installations which show 13% CO_2 as part of their everyday operation.) These superior installations give flames which are nearly silent. The flue passages need cleaning once a year or less frequently. The flames are stable; they have no tendency to "leave the nozzles."

Excellent burner design helps produce such results. But since the dealer who is installing a very large pressure burner for the first time may not be certain that the burner of excellent design in these respects, he should take no chances. He should design a firebox which "plays safe" and which will give good firing even with a burner not of the best design.

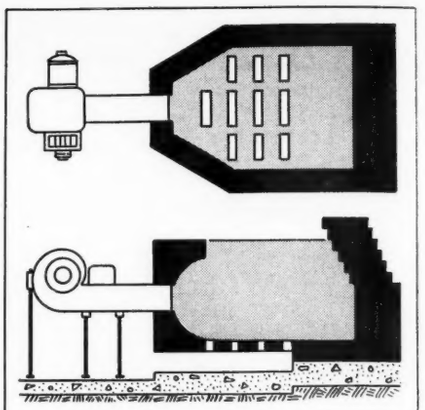
Diag. 1 shows the design features of a large firebox which "plays safe."

To begin with, if the dealer has any doubts in his mind about either the proper firebox length for the gph rate he intends to use, or the proper gph rate for the installation, he should lean towards making the firebox overly long. The reason for this is that while it is very easy to reduce the length of an overly long firebox, it is time-taking and very expensive to increase the length of a firebox which is too short. *But here's an important point: A conscientious dealer must not fail to reduce the length of a firebox which firing tests show to be oversize.* Field tests have proved that shortening an overly long firebox can cut as much as 20% from the oil consumption!

Diag. 1 shows high side walls. Even if the boiler room floor must be pitted on a large installation, to achieve the proper sidewall height without having them cover the boiler mud leg by more than the 4" to 6" needed for the protection of the boiler, the side walls of the firebox should be more than twice as high as the nozzle is from the firebox floor.

The nozzle must be far enough from the firebox floor to avoid building carbon on the floor. Multiply the nozzle height by two and add four inches to the result, and you obtain the minimum side height for a large installation.

Both the front and the rear walls have corbels in Diag. 1; the walls are stepped in over the flame. The rear corbel helps



Diag. 3 - *Floor plan and side view of large firebox with air slots in floor.*

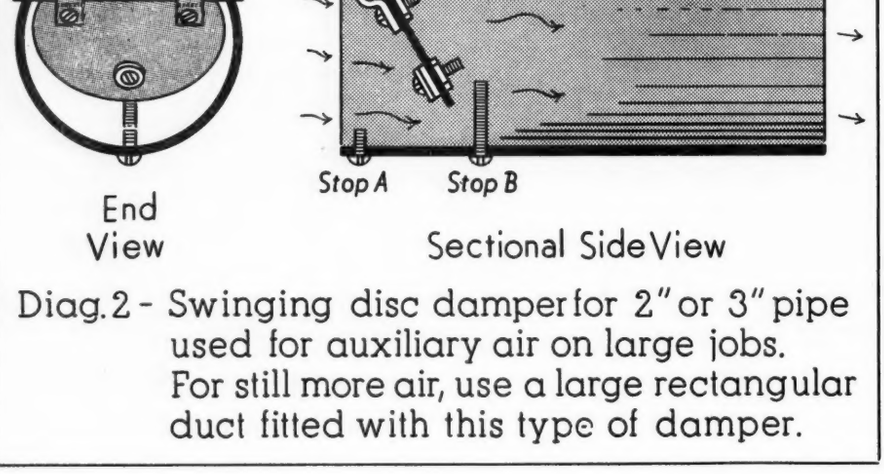
combustion efficiency by making the flame double back over itself. The corbel, plus the height of the back wall, prevents flame tips from darting straight toward the uptakes in the crownsheet of the boiler. When you eliminate chances of the flame tips taking a short-cut to the cool flues and becoming chilled too rapidly, you eliminate some of the chances of forming excessive soot in the flues.

While the back-wall corbel helps prevent the flame from leaving the nozzle when the firebox is cold, the main purpose of the corbelling of the front wall is to prevent this trouble. Sloping the floor of the firebox upward toward the nozzle, in the way shown in Diag. 1, helps prevent leaving-flame trouble and flame sound and pulsation trouble. Don't have any part of the floor so close to the heart of the flame, however, as to invite oil impingement and the formation of hard carbon on the floor.

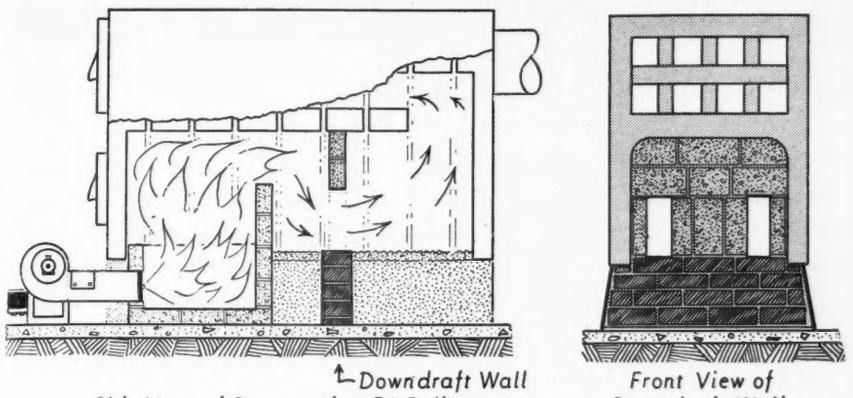
The side walls of this big firebox have "wings" at the front of the box. This helps the burner mix the air and oil from the gun and the nozzle. Again, it helps quiet the flame, and on many installations improves the combustion efficiency.

The steps at the back of the side walls, which bring the side wall height to nearly the back wall height at the back of the box, prevent the products of combustion from wiping the direct heating surfaces of the boiler as they leave the firebox. Such wiping would cool the hot gases prematurely and prevent cleanest possible burning.

If you are planning to install your first large gun-type burner, by all means provide the firebox with the air tubes shown in Diag. 1. Install two 2" pipe nipples for fireboxes for up to about 6.0 gph. For



Diag. 2 - Swinging disc damper for 2" or 3" pipe used for auxiliary air on large jobs. For still more air, use a large rectangular duct fitted with this type of damper.



Diag. 4

fireboxes for up to 10 gph, install two 3″ pipe nipples. For larger fireboxes, install additional 3″ pipe nipples or provide a rectangular opening in the front of the firebox for secondary air.

These auxiliary air openings can be provided easily when you build the firebox. Just as easily, they can be sealed with refractory material and asbestos cement if tests, made soon after the burner is first fired, prove them not needed. The air tubes are left open on certain installations to permit firing at a higher gph rates than can be used otherwise, or to obtain smoother, quieter burning. Using the air tubes eliminates severe starting and stopping pulsation on certain installations.

The use of any kind of auxiliary air opening invites the trouble of oil vapor, and perhaps smoke, escaping from the boiler through the opening when the burner lights. To overcome this, use the type of damper shown in Diag. 2. Similar to an automatic draft regulator of the swinging-disc type, this air damper closes when there is a "plus pressure" in the firebox, and opens when negative draft in the firebox tends to draw air into the boiler. Stop A, in the diagram, keeps the damper disc in the closed position when the gases tend to escape from the boiler momentarily as the flame lights. Stop B prevents the damper from opening far enough to bind. The diagram shows an easy way to make a damper. This damper does not close dead-tight, however, for to avoid binding when the damper is open, the disc is considerably smaller than the inside diameter of the air tube. This invites engineering-minded dealers to design and make a more ship-shape arrangement, if they do not mind the extra cost of their dampers.

Many dealers agree in this. Poor principle is shown by a burner installer who uses auxiliary air for a small pressure burner simply to avoid paying extra for a burner large enough to carry the load without the help of auxiliary air by natural draft. But it is good engineering to use auxiliary air to cure troubles that cannot be cured otherwise. Also, it is good engineering to use auxiliary air to permit a very large pressure burner, the largest the dealer handles, to carry a heavy load.

Diag. 3 shows auxiliary air, by natural draft, fed to the flame through slots in the firebox floor. Experienced dealers use this arrangement, similar to the arrangement used for horizontal rotary cup burners, where considerable amounts of secondary air must be given an exceptionally large flame, and where the slots improve the combustion efficiency. A damper which uses the principles of the damper in Diag. 2, but which is rectangular and built into a sheetmetal secondary air duct, may be used with the firebox shown in Diag. 3.

Diags. 4 and 5 show the construction of a refractory downdraft wall which the writer devised about 20 years ago when it was more than half-true that "underloaded boilers were soot machines." The small flames in the oversize boilers seemed to lose entirely too much heat to the direct heating surfaces. The flames, "lost" in the big boilers, tended to be cool and sooty. The use of the downdraft wall increases by hundreds of degrees the temperatures of the flame, and also of the direct heating surfaces of the boiler. Rapid heat transfer to the boiler where it counts most, lower stack temperature, and exceptionally high CO_2 are the results. Cleaner combustion, the primary objective of the arrangement, is obtained through increasing the flame temperature.

The fireboxes shown in Diags. 4, 5, and 6 are made of light-weight insulating firebrick. The foundations for the downdraft walls are made of heavy firebrick, as Diag. 6 shows in detail. Notice that the products of combustion contact only the light-weight insulating firebrick of Diag. 6. The wall is carefully designed for this because the insulating firebrick heat more rapidly than heavy brick. In Diag. 7,

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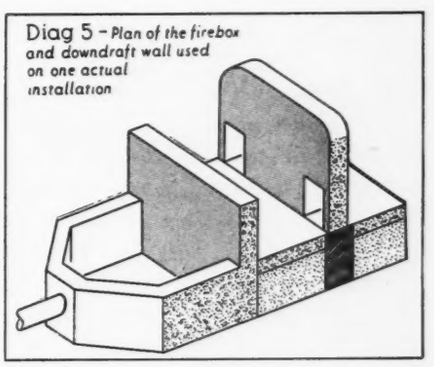
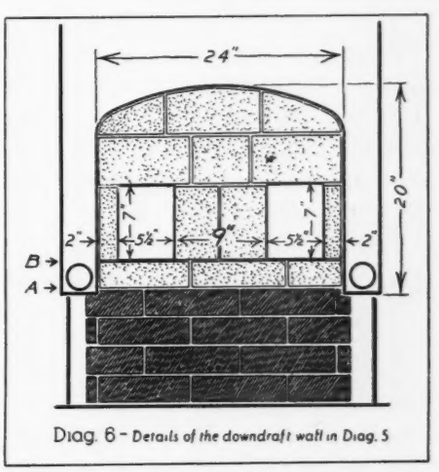
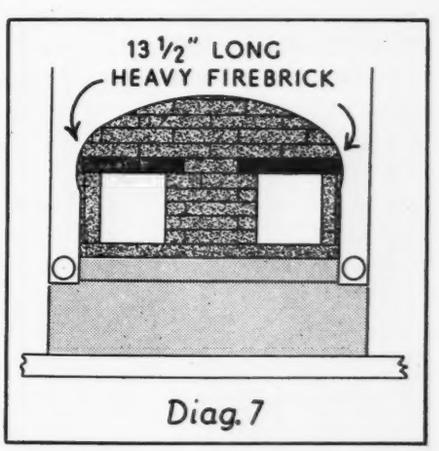




Diag. 6 - Details of the downdraft wall in Diag. 5



Diag. 7

Fueloil Peaks and Valleys

Empire State Forum Seeks Ways to Ease Seasonal Unbalance

ONE OF THE FEATURES of the annual meeting of the Empire State Petroleum Assn. on October 14 at New York's Hotel Waldorf-Astoria was a five-man panel discussion exploring the problems caused by the seasonal nature of the fueloil business, and suggesting some possible avenues for improvement. The convention, largest in the history of the Association, was in charge of Harry J. Kiritz, president, and Harry B. Hilts, executive director.

The members of the panel on seasonal unbalance in fueloil were A. P. Frame, vice-president of Cities Service, who took the refiner's viewpoint; J. L. Minner, fueloil department manager for Shell Oil, who handled the wholesale and transportation phase; H. D. Rapps, general manager, Arguls Gas & Oil Sales Co., Brooklyn, who told how retailers are affected; Rud Baber, vice-president, Frontier Oil & Refining Co., Buffalo, describing the problems of the "frozen-in" areas, where all product for the winter must be on hand before water transportation freezes up; and Robert Gray, of FUELOIL & OIL HEAT, who introduced the general topic and was moderator in the informal discussion period that followed the reading of short papers by each member.

The five papers, somewhat edited for brevity, follow in the order that they were presented, starting with the introductory one by Gray.

Introducting the Topic

Almost every industry has a seasonal pattern. Even in a thing so elementary as food . . . the food industry finds larger consumption in the cold winter months, but most of its production in the summer. Manufacturers of electrical appliances try again and again to find just one person who will buy an electric fan in some month other than July or August. That seems to be about the toughest assignment of the lot.

In many lines, progress has been made toward leveling out the peaks and valleys, or in making them less acute. Our competitive fuels have been able to move farther than we have in this direction. The coal industry has for many years offered lower prices in early summer than at any other time of the year, with the result that, even in times like these when all prices are undependable, the coal burning public still recognizes that money can be saved by putting in the winter's supply during June. Naturally, coal presents a simpler problem than fueloil because it so easily can be stored anywhere.

But our other competitor, gas, like fueloil, can only be stored in some type of container—this brings the real problem. The gas industry has done a lot to improve its feast-and-famine cycles, partially by making our seasonal unbalance in fueloil the more acute.

The manufactured gas utilities have little to worry about, since only six percent of their fuel is used for heating, due to its high cost. But in the natural gas areas, some utilities get more than half of their total dollar revenue from heating fuel.

These natural gas utilities buy their fuel from the big pipelines coming in from the Southwest and they have to agree to take approximately uniform quantities the year around. So they go to big industries in their communities and sell them gas for their various fuel needs on what is called an "interruptible" basis. They sell this gas dirt cheap . . . sometimes as low as 17¢ a thousand feet for 1,000 Btu fuel.

Then in the fall, as their heating load comes on, they cut off, or "interrupt" the fuel supply to these industries, one by one, until by Christmas they are all off. What do these industries do then? They have standby equipment which lets them easily slip over to fueloil, making our winter peak problem that much tougher.

In talking with some large oil companies about the unfairness of their permitting this to go on, they point out that those industries are large buyers of lubricating oils, a most profitable product, and that supplying their fueloil is more or less of a favor, to get the lube oil business. It's pretty much a tie-in sale. Anyway, the gas folks got the jump on us by being forced to take action on seasonal problems years ago.

Peaks and valleys have been with us in the fueloil business since the earliest days, more or less recognized as necessary evils. There has been a lot of talk about improvement, but very little done to bring it about. Now the story is different—it has got to be different. The growth of oilheating since the war ended has been so rapid that we have run into refining and storage troubles that we had never foreseen, even so recently as a year ago.

Insist on Buying Burners

American families, by the hundreds of thousands, just insist on buying oilburners. For the year 1946, the best brains of the oil industry had expected at most 375,000 new burners; we at FUELOIL & OIL HEAT had forecast 420,000; the right figure proved to be 455,000.

For 1947, we originally expected about 466,000 installations; then in June we raised our sights and called it 532,000 new fueloil users for this year . . . but by the end of September we had already passed that figure, with three months still to go.

So you can make your own guesses for the year, but don't fail to notice that we are sure to have a demand this season for distillate heating oil of around 25% above last season, assuming normal weather. Think of all that that means to our seasonal problem . . . all the storage considerations . . . all the refinery yields to work out. Whenever any industry so seasonally unbalanced as ours gets a habit of growing 20 or 25% a year, it's time for a lot of discussions like this one.

The seasonal consumption affects the oil industry at almost every operation . . . it could even affect crude buying, for if we continue to grow faster than storage expansion takes place we would hardly go back to storing crude in ponds.

In tackling such a subject, the group doesn't expect to be so successful as to get people to burn their oil in the summer instead of the winter, but they are willing to say that that is about the only impossibility in the whole picture, if the industry seriously wants to go after improvement.

The obvious answer always suggested is to get more storage everywhere and that clearly is a part of the solution, however costly and slow. We have had little success in the past in getting larger consumer storage . . . apparently we haven't gone about it right. We can point to one successful example, the Pacific Northwest. Their average consumption for the season is around 1,200 gallons, and most of the new jobs going in have 675 gallon buried tanks, or more than half the year's needs.

The oil industry out there doesn't deserve full credit for that happy situation. Some of the cities had ordinances that prohibited indoor storage of more than 100 gallons. So having to use buried tanks, they went to the size that prospects could afford to pay for along with their oil-burners.

The reason for the 675 gallon size instead of the conventional 550 is interesting. There are no steel mills in that country, so the sheet stock for tanks has to come from wholesalers. One of their most popular standard size sheets is 8 x 12 ft. Used without any cutting, this makes the cylinder for a 675 gallon tank, so it has become standard practice.

You can hardly depend on other municipalities helping you out by putting in such screwball ordinances, because all of the educational work done by the industry's trade associations through many years has been in the other direction . . . proving that oil is safe indoors, even in large quantities. So let's try to find other ways to get similar results.

The other men on the panel have taken specific phases of the seasonal problem, from the viewpoint of the refiner, the large wholesale marketer, the local terminal operator who also handles retail considerations, and the frozen-in marketer who must get most of his supplies in warm weather before his water transportation is stopped by freezing.

Define the Problem

You will get from these men some suggestions for improvement, some cures for specific headaches, but in general their purpose is to clearly define the troubles, to measure our industry's deficiencies, to stimulate thinking throughout the industry . . . thus creating an atmosphere in which the best answers will, from time to time, make their appearance.

Frame Talks for Refiners

The problem of seasonal unbalance in the requirements of distillate fuel oils has repercussions on the refining end of the industry the same as on all other branches. In this discussion we are confining ourselves primarily to the situation existing along the Eastern Seaboard, or what was practically District 1 in the P.A.W. designations. From the refinery standpoint, however, it is necessary to consider the Gulf Coast region as well because the Eastern Seaboard imports from the Gulf Coast approximately as much petroleum products as are produced by the refineries on the East Coast.

There has always been seasonal unbalance in the distillate fueloil supply situation and always will be as long as the average domestic household burner uses 60% of its annual requirements in the four winter months of the year. Prior to World War II this seasonal unbalance was not too serious from the refining standpoint because the annual consumption of distillate fuels was so low in relation to gasoline consumption that the refineries could alter their percentage yields of products by seasons thus simplifying the supply problem. There is no great problem in an average refinery to increase its percentage of distillate fuels from 5% of the crude to 10% of the crude, although such an increase represents doubling the volume of production. However, the problem of increasing the percentage distillate fueloil yield from 20% to 40% of the crude processed (again just doubling the production) presents an almost, if not, certain impossibility from a refining standpoint. Therefore, as the requirement for distillate fueloils approaches closer to the requirement for gasoline the ability of the average refiner to affect seasonal variations in yield become less and less until at some point such flexibility of operations will completely disappear.

Since 1939 the requirement for distillate fueloils in this territory has practically doubled while the crude run in refineries supplying this territory has gone up only 50%. The refineries have met this 100% increase in demand for distillate fuels by increasing their crude runs and also by increasing materially their percentage yield of distillate fuels from crude,

(Continued on page 142)

A. P. Frame, *Cities Service vice - president in charge of refining, who took the refiner's viewpoint.*

J. L. Minner, *manager of the fueloil department, Shell Oil Co., spoke of transportation and wholesaling seasonal problems.*

Hyman D. Rapps, *general manager Arguls Gas & Oil Sales Co., Brooklyn, told how fueloil seasonal troubles affect the retailer.*

Rud Baber, *vice-president, Frontier Oil & Refining Co., Buffalo, explained why the frozen-in regions have even more acute seasonal troubles.*

Robert Gray, FUELOIL & OIL HEAT, *who introduced the study by outlining its purposes, and acted as moderator.*

Fueloil Trucks Operating, By States and Regions

THERE ARE AT PRESENT just under fifty thousand fueloil trucks operating in the country, including those delivering distillate (the typical central heating fuel for homes), range oil (includes No. 1 and kerosene) and residual fuels, the type consumed in heating large buildings. In the state breakdown shown in the table, only retail delivery trucks are counted, not over-the-road transports. It is known that some trucks deliver more than one product, particularly on the West Coast, but they have all been included in one column or the other, depending on what is believed to be their principal use.

	NUMBER OF TRUCKS DELIVERING			
	Distillate (No. 2, 3)	*Range Oil (Inc. No. 1, Kero.)*	*Residual (No. 5, 6)*	*Total*
Massachusetts	1,770	2,884	551	5,205
Connecticut	1,139	999	267	2,405
Rhode Island	474	533	82	1,089
Maine	218	381	31	630
New Hampshire	175	218	41	434
Vermont	95	113	9	217
New England	3,871	5,128	981	9,980
New York	4,867	2,670	974	8,511
New Jersey	2,393	1,409	362	4,164
Pennsylvania	1,262	512	366	2,140
Maryland	574	261	78	913
D. C.	267	49	58	374
Delaware	81	50	8	139
Middle Atlantic	9,444	4,951	1,846	16,241
Illinois	3,479	1,447	536	5,462
Michigan	1,348	531	227	2,106
Minnesota	1,419	401	55	1,875
Wisconsin	1,041	411	66	1,518
Missouri	928	375	162	1,465
Iowa	511	449	16	976
Ohio	347	289	26	662
Indiana	333	261	62	656
Nebraska	377	153	14	544
South Dakota	170	63	2	235
Kansas	97	104	21	222
North Dakota	115	60	..	175
Middle West	10,165	4,544	1,187	15,896
North Carolina	284	251	33	568
Florida	207	228	54	489
Texas	174	248	8	430
Virginia	258	133	19	410
Georgia	114	134	7	255
South Carolina	74	104	1	179
Tennessee	41	97	10	148
Arkansas	9	101	3	113
Kentucky	62	38	7	107
Alabama	48	53	2	103
Louisiana	39	49	4	92
Oklahoma	9	63	1	73
Mississippi	6	25	..	31
West Virginia	14	12	..	26
The South	1,339	1,536	149	3,024
California	427	851	240	1,518
Washington	473	504	150	1,127
Oregon	290	274	153	717
Montana	79	59	6	144
Colorado	89	53	..	142
Nevada	130	1	9	140
Arizona	127	7	2	136
Idaho	77	11	1	89
Utah	44	5	1	50
New Mexico	16	30	..	46
Wyoming	27	11	1	39
The West	1,779	1,806	563	4,148
UNITED STATES	26,598	17,965	4,726	49,289

Majewski Asks U. S. Help For Better Distribution

B. L. MAJEWSKI, vice-president of Deep Rock, has asked that a five-point program be adopted to solve the petroleum supply problem now facing the country. In a letter to Max Ball, director of the Oil & Gas Division of the Department of the Interior, he suggested that the Division and the National Petroleum Council "formulate a program to mobilize the nation's petroleum resources in order to alleviate the impact of the shortage."

The program should have the support of the State Department, Office of Defense, and the Department of Justice. Points that should be covered are:

1. Coordination of transport east of the Rockies, including tankers, barges, tank-cars, trucks and pipelines to insure most efficient use.

2. Scheduling flow of crude and products on an equitable basis east of the Rocky Mountains.

3. Appointment of a group to study ways and means of maximizing distillate yield at the expense of gasoline this winter.

4. Another group to find ways of increasing gasoline by, say, a maximum of 74 octane for house grade and 78½ for premium grade.

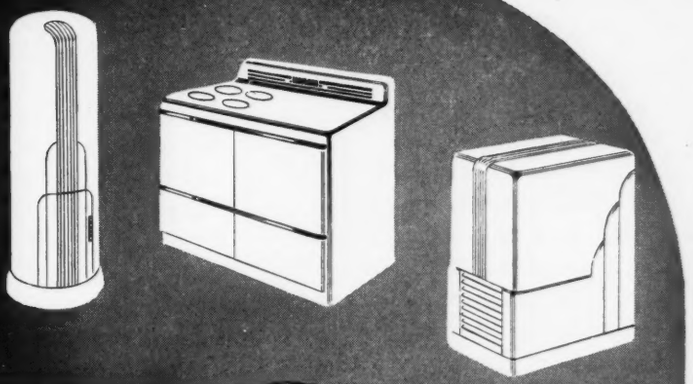
5. That the matter be referred to the National Petroleum Council for action at the special Chicago meeting during the API convention, November 10 to 15.

Dealer Optimism Rises In M-H Surveys

IN 998 INTERVIEWS by Minneapolis-Honeywell field men with oilheating dealers during the four weeks ending September 13, 57% reported their business improving. This compares with 50% so reporting in August and 42% in June, as the table shows. The interviews were conducted in 21 cities spread from coast to coast. Asked if their oilburner sales were being affected by the oil situation, 23% of dealers said that they were. In the Midwest, however, 72% of the dealers said that oil shortage publicity was hurting their sales. Shortages of oil tanks were apparently about as much of a deterrent to installations as oil supply scares.

	June	*August*	*Sept.*
Business improving	42%	50%	57%
Business bad	12	5	2
Business slow	39	26	21
Overstocked on burners	8	9	6

Comfort IS Profitable



"BY 1970 20% OF THE CENTRALLY HEATED HOMES WILL HAVE OIL HEAT"

Robert E. Wilson

CHAIRMAN OF THE BOARD, STANDARD OIL CO.
(IN "FUELOIL & OIL HEAT")

Demand for clean, reliable, economical oil heat continues to grow. Everybody wants it because it provides a maximum of comfort. Mr. Wilson, in his article, bases his forecast on a statistically proved trend.

People want comfort—and furnishing it to them is a most lucrative business. *Comfort is profitable.*

One of the best ways to profit from this desire for comfort in heating is to sell oil fired space heaters, water heaters, ranges, furnaces, etc., equipped with "Detroit" Float Valves.

These valves are dependable and durable—simple and easy to keep clean. Temperature compensation assures uniform fuel flow regardless of fuel temperature. Full heater output is assured at all times.

"DETROIT" CRC—246 FLOAT VALVE

The new improved "Detroit" Float Valve. May be leveled by eye—accurate regulation for low fuel flow rates—positive trip mechanism trips from fuel level in burner as well as in valve. Fully temperature compensated.

"Detroit" Float Valves

Guardians of the Home Fires

2739

DETROIT LUBRICATOR COMPANY *General Offices:* 5900 TRUMBULL AVENUE DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"DETROIT"

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

Big Inch Gas Gets OK for Philadelphia

NATURAL GAS for Philadelphia and the Appalachian region will move through the Big Inch and Little Inch lines this winter, according to permission granted by the Federal Power Commission in October. The lines were bought by Texas Eastern Transmission Corporation for $143,000,000 last February, contingent on getting this permission from the FPC.

Texas Eastern reports that it has contracts with Philadelphia Gas Works Company for 60 million cubic feet a day, and with the Philadelphia Electric Company to deliver 20 million feet a day. Transportation of gas to Philadelphia was opposed by states and cities along the route of the lines, who claimed that the present capacity of the lines were not sufficient for their needs, and Philadelphia did not need natural gas. The action was opposed also by Pennsylvania coal interests.

Granting permission, the commission said:

"The urgent need for natural gas along the route of the Big Inch lines, in the Appalachian area, and eastwardly to the Philadelphia area clearly warrants the permanent conversion of the Big Inch lines for the transportation and sale of natural gas.

"The record does not support the position taken by the railroad, coal and labor union interests, whose purposes, it appears, was to prevent the introduction of natural gas into the Philadelphia and eastern Pennsylvania area."

Texas Eastern, which has been operating the two lines on a temporary basis, has been serving sections as far east as Pittsburgh under a conditional authority granted by the commission.

The lines now have a capacity of 140 million cubic feet of gas per day. Texas Eastern has announced plans to spend $14,370,000 to step this up to 435 million cubic feet by August 1, 1948.

◈

Canadians Are Reassured On Long-Range Oil Supply

DESPITE PRESENT FUELOIL SHORTAGES there is no fear of a shortage in the world's crude supply, the Canadian Purchasing Agents' conference was told by J. A. Godsoe, executive vice-president of the British American Oil Co. He predicted that a year's time should see some betterment in the household fuel picture, and two to 2½ years should see a material improvement. In the meantime, he cautioned, people contemplating oil-burning installations should assure themselves beforehand of adequate supplies.

Of the long-range supply picture he said: "The industry is safeguarded by large reserves of crude oil on this continent, in South America and the Middle and Near East. In addition the greatest program of exploration in the history of the industry is under way." Extraction methods have been improved from a 20% recovery to a possible 80%.

A trans-Arabian pipeline to the Mediterranean now contemplated would make possible the movement of 1 million barrels of crude daily which would go a long way towards easing pressure of the crude reserves of the United States, incidentally make more American oil available for export to Canada, and make Middle East crude available to Canadian refineries.

Of the Canadian picture, he said: "Due to the recent oil find in Alberta (at Leduc) there has been a healthy, revived interest in the search for crude in Canada. Its importance to our economy is tremendous. We produce less than 12% of our requirements."

◈

Washington Home Show Awards Free House

FEATURE of the Annual Home Show-Exposition, sponsored by Home Builders Association of Metropolitan Washington, Washington, D. C., October 11 to 19, was the awarding of a two-bedroom house to the winner of a jingle contest. The California ranch-type, industry-engineered model home was opened to the public on September 4 and was rebuilt and relocated for the winner. The heating system in the home consists of Warren Webster radiant baseboard panels installed on all outside walls, with a York oilfired boiler-burner unit supplying hot water for circulation through the baseboards.

The Show and Exposition, held in the D. C. National Guard Armory featured exhibits by many local outlets who displayed oilburning equipment and accessories.

Jersey Rations Gasoline To Its Eastern Dealers

THE STANDARD OIL CO. of New Jersey announced October 22 that it is rationing gasoline to its dealers throughout 17 Eastern states, on the basis of about 85% of their "requirements." This was called a temporary measure that might be cancelled after a few weeks if conditions of supply improve.

At the same time, Socony-Vacuum said that it has thus far adopted no allocation plan, but that it has instructed all dealers in gasoline, home heating oil, industrial lubricants and other products to take on no new customers because there is no prospect of increased supplies.

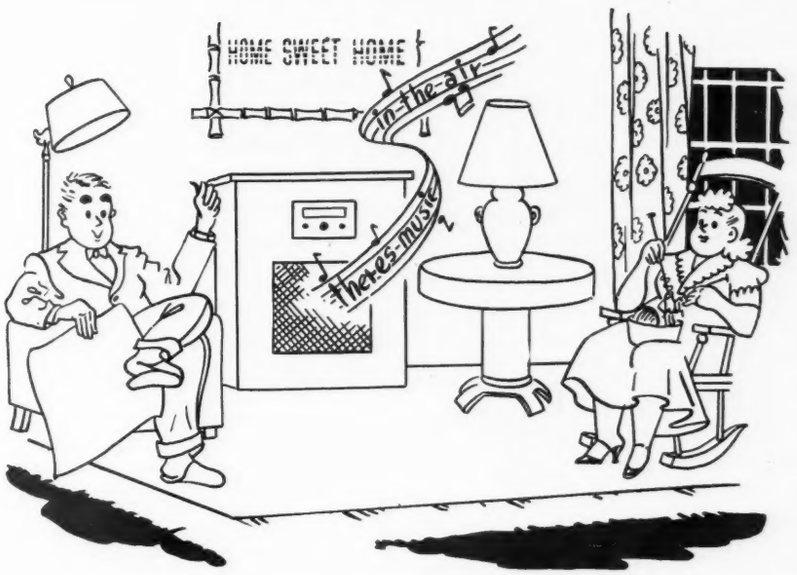
◈

U. S. Department of Labor Fueloil Prices July

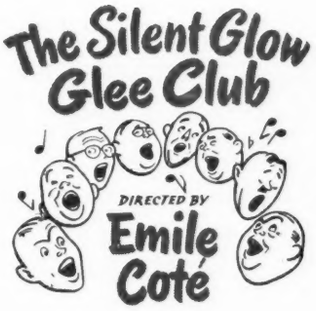
FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various supplies in each market, the prices are averaged and published. Those in the table that follow were taken July 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	11.30	11.15	9.40	..
Bridgeport	10.80	10.42	9.20	..
Fall River	..	..	9.90	..
Manchester	12.30	11.80	10.20	..
New Haven	..	..	9.10	..
Portland, Me.	11.20	11.20	9.50	..
Providence	..	11.03	9.45	..
Buffalo	12.32	..	11.11	11.11
*Newark	10.80	10.80	9.20	..
New York	..	11.32	9.55	..
Philadelphia	..	10.62	9.16	..
Rochester	..	12.50	10.68	..
*Des Moines	..	10.67	10.15	10.12
*Kansas City	..	10.30	9.69	9.61
Minneapolis	11.20	11.20	10.50	10.50
Omaha	..	10.50	10.00	10.00
St. Louis	..	..	..	..
St. Paul	11.20	11.20	10.50	10.50
Baltimore	..	10.81	9.89	..
Norfolk	..	11.00	9.30	9.30
Richmond	..	11.30	9.50	..
Washington	..	11.10	10.10	..
Charleston, S. C.	..	11.80	9.50	..
Jacksonville	..	11.90	10.45	..
Savannah	..	12.18	10.57	..
**New Orleans	..	11.33	9.89	9.90
Portland, Ore.	..	10.75	9.25	5.62
***San Francisco	..	10.46	8.92	5.58
**Seattle	..	11.24	9.69	5.94

*Price includes 2% sales tax.
**Price includes 3% sales tax.
***Price includes 2½% sales tax.



We hit 'em when they're down



These star salesmen can work for you!

Make your customer feel friendly, relaxed, receptive — it's one of the first rules of selling! Hit him with your product story when his sales-resistance is *down*. That's exactly the pleasant, effective kind of selling the Silent Glow Glee Club is doing for Air-Seel dealers. Each week over four million families tune in to their fine music, enjoy it — and hear the Air-Seel story. The happy ending — more Air-Seel sales — more *profits* for Silent Glow dealers.

Silent Glow Oil Burner Corp. FOH-3
Hartford 6, Conn.

Gentlemen:
Let me have the facts at once about a Silent Glow dealership.

Name _____

Address _____

City _____ Zone _____ State _____

fueloil & oil heat

Oil Price Cracks as Crude and Products Rise

PETROLEUM PRICES, both for crude and products, broke to new highs in October in spite of efforts by Standard Oil (N. J.) to hold the price line. Phillips Petroleum posted a 20-cent a barrel advance in the price it would pay for crude on October 15. This was followed by Standard Oil (Ind.), Magnolia, and eventually by all the crude buying companies. Standard of N. J. met the increase October 17. This brings the price of top grade crude to $2.15 a barrel, the highest since 1920. Sohio announced that it was paying as high as $2.43 a barrel in Michigan's Rose Lake pool.

Price advances for products started on October 20, when Continental Oil increased tank wagon prices of gasoline .9, kerosene .8, diesel 1.0 and light fueloils .9 cents. Standard of Indiana advanced wholesale product prices a half cent on kerosene, a cent on No. 1, eight-tenths on furnace oil, and four-tenths on residual. Deep Rock upped the price on range oil and No. 2 a half cent a gallon, and a full cent on diesel oil. In addition Deep Rock increased freight charges by about 10%.

Standard of Jersey raised distillate prices .8 of a cent October 30, while gasoline advanced .3 of a cent and residuals went up 30 to 37 cents a barrel. This cracks Jersey's "hold-the-line" policy on retail prices. President Rathbone explained the increase is necessary to get maximum supplies of products. The greater increase in distillate prices is designed to get a larger distillate yield. Other majors are expected to follow.

Sec. of Interior Krug Asks Supply Committee

WALTER S. HALLANAN, Chairman of the National Petroleum Council, received a letter from the Honorable J. A. Krug, Secretary of the Interior, October 21, in which he pointed to the present petroleum supply and demand situation as indicating possible widespread shortages of petroleum products in the next twelve months with adverse effect upon the public, industrial consumers and the Armed Forces.

Secretary Krug in his letter to Mr. Hallanan states: "I consider the matter of sufficient gravity to call for immediate consideration by the National Petroleum Council of such measures as can be taken by the government, the industry and the public to conserve supplies of petroleum products or to increase their availability." He further requested that the National Petroleum Council place this problem in the hands of a committee for study, report and recommendations at the earliest possible date.

Economists Expect Mild Business Slump Ahead

IT IS THE CONSENSUS of one hundred economists polled by F. W. Dodge Corporation that there will be a mild business recession beginning next spring.

The group polled includes economists connected with business corporations, financial institutions, universities and economic research organizations.

In revealing results of the corporation's opinion survey on wholesale prices, industrial production, employment and construction, Thomas S. Holden, president of the fact-finding organization, said that seventy-five of the economists expected a business recession in 1948, that twenty-one did not expect a recession next year, and four did not express an opinion.

Forty-one of the economists expecting a recession indicated they believed it would be mild, nineteen described their expectation as "moderately serious," and eleven as "serious."

Half of New Homes Use Oil for Heating

SMALL HOMES GUIDE, surveying owners who had reported that they would build this year, found that 50% of those who built had used oil for heating, 24% had used gas, 11% coal, 2% wood or electricity, and 13% did not mention heating.

Heating systems installed were 36% warm air, 14% forced hot water, 3% steam and 8% radiant. There were 28% who are using space heaters, and 3% mentioned other types of heating systems. Those who did not answer amounted to 8%.

Twenty Years Ago

(From the November issue, 1927)

Walter C. Teagle, President of the Standard Oil Company (N. J.), says, "I have full faith in the ability of the oil industry to meet the growing demand for oil for domestic heating purposes."

R. P. Flower, for four years with the Honeywell Heating Specialties Co., Wabash, Ind., died at his Chicago home. Formerly he was with Gill Mfg. Company's Oil Burner division, and a director of the American Oil Burner Assn.

For the first time, electric utilities are showing an interest in the oil burner as a load builder. Five of the leading burner manufacturers recently met with utility executives to promote oil heating.

More and more interest is being shown by dealers in the use of instruments to check the efficiency of domestic oil burner installations. The more technically minded members of the industry believe instrument tests will become accepted as common practice.

Several local ordinances which put an unusually heavy burden on installers of oil burners have been amended recently with the help of AOBA. Most of the changes have reduced fireproofing regulations to conform with National Board of Fire Underwriters' rules.

Assets of the Superheat oil burner company, Muskegon, Mich., have been taken over by Equator Oil Heater Co.

May Oil Burner Corp., Baltimore, has filed suit for an accounting of profits which are claimed to have been earned by Aetna Automatic Oil Burner Corp., Providence, R. I., through the sale of the Improved Lawrence May oil burner. An injunction also was sought to restrain the use of the name "Quiet May Burner."

W. B. Wilde Co., Peoria, manufacturer of the Hart burner, has been reorganized with A. E. MacInnis as president and general manager. Interested in the company with Mr. MacInnis are R. S. Whaley, a former associate at Power Plant Engineering, R. S. and Gerald Bohn of Preferred Utilities, Lionel V. Tefft, attorney, and J. Paul Schnellbacher, former vice-president. Lloyd I. Aldrich, former chief engineer, is in charge of experimental engineering.

Denver's city council has approved the use of natural gas in the city, with a rate schedule down to 50 a thousand ft.

Light Oil Supply "Touch and Go" Bedford Tells New England Group

AN INDUSTRY FALL LUNCHEON, sponsored by Oil Heat Institue of New England, was held October 27 at Boston. Russell F. Swett, Institute president, was chairman and revealed that there have been fifty-four applications for membership since the group commenced its program for public acceptance of Accredited Members. A print order of 50,000 booklets, explaining technical standards under which members operate, has been exhausted and a new order is being prepared.

J. C. Richdale, vice president, Colonial Beacon Oil Co., introduced A. Clarke Bedford, executive vice-president, Standard Oil Co. of N. J., the principal speaker. He discussed the petroleum supply situation, particularly as it affects the East Coast and complimented the Institute on its program to encourage replacement of obsolete and worn out installations.

Declaring that problems facing the oil industry are far from solved, Mr. Bedford reiterated the basic reasons for the tight supply situation, first explaining that there is no crude oil shortage in the ground. But, few of the construction projects undertaken during the war to supply military needs resulted in increases in peacetime products. At the same time, normal replacement and expansion of equipment for producing, transporting, refining and storing product was postponed, and, finally, the end of the war failed to bring about the anticipated falling off in demand. Instead it rose sharply, particularly in military requirements and in products being used or contemplated for use under the Marshall Plan and other Government-sponsored programs.

With daily fueloil demand about two times present production, a particularly knotty problems, covered in the talk, concerned oil tanker shortages. As an example, Mr. Bedford cited Standard's experience when studies were made to investigate switching tankers from crude service to heavy fueloil to supplement Bunker C supplies. The move was contemplated because of the desperate need for additional tanker capacity, but the study showed that for every 300,000 barrels of fueloil carried the net gain would be less than 200,000 barrels because of loss of production in the crude. The company concluded that such a move, resulting in gasoline and heating oil loss, was an uneconomical use of transportation and abandoned the plan. An acute steel shortage, extending from the pipe for the drill casing in the producing field to the fill spout on the bulk plant loading platform, poses another serious problem, the speaker continued. Little immediate relief is promised, even with plans for new construction in many cases off the drawing boards, because home expansion and demands for rehabilitation and reconstruction abroad have advanced delivery dates for fabricated steel twenty-four months.

To offset such adverse conditions, Mr. Bedford stressed the remarkable job being done by refineries, where crude runs have reached a new high production figure, 10% above the highest daily average reached at the peak of the war effort.

Commenting on residual and distillate outlook, Mr. Bedford said that the heavy fuel picture was not good, because the price structure of this product has been historically unfavorable to refineries and OPA ceilings placed it below a parity with coal. For the most part heavy fuel has been considered a by-product, and while the outlook is a little brighter on distillates, it still will be "touch and go" for the next six months. The margin of safety is considered too narrow to obviate regional or temporary or spot shortages. "Let's hope for a warm winter . . . and hope also that the law of averages doesn't work against us," continued Mr. Bedford.

Summer fill-up campaigns, intended to build up inventories and use available transportation to prevent blocking refinery tankage during off season months, has been concluded and it is important now, declared Mr. Bedford, to get people to use that inventory wisely. The Institute is doing a fine job along these lines, he said, and he urged redoubled efforts to convince consumers that a gallon saved now may mean a warm home next winter.

Conservation has been the aim of Standard of N. J. for many months, the assemblage was told, and jobbers and distributors long ago were apprised of the supply situation and told to expect no greater supply this year than they received last year. Last Spring the company discontinued sales of conversion oilburners, except as replacements and to meet housing development commitments. At the same time, Standard's advertising theme was changed to urge conservation and a booklet stressing fueloil saving was published. On this point, Mr. Bedford sounded the warning, " . . . if we, in the industry, let the public down this coming winter, you may rest assured its condemnation of our methods will be loud and far-reaching and for a long time to come. And, so I say we must watch carefully sales commitments and not speculate on conditions getting better. If we do, we serve only to risk placing our whole industry in jeopardy before the bar of American opinion."

On the question of oilburner sales, Mr. Bedford assured his listeners that he can no more tell them what to do with their businesses than he can tell automobile makers to stop producing cars or other industries to stop making diesel engines or tractors. But, he cautioned, " . . . when you do sell a burner, assure yourself that your customer has a supplier for his oil, or if you are the supplier, assure yourself that you can take care of him." The industry, if a customer fails to get a supply of fueloil, will suffer a damaging loss, it was pointed out. Not necessarily a financial loss, but a loss of public confidence. Mr. Bedford viewed this as not worth the price and declared, "The industry must earn as well as return public trust."

In commenting on Standard's hold-the-line-price-policy, Mr. Bedford explained that it was designed to keep down prices and fight inflation. If and when price increases come, Mr. Bedford suggested, they should be spread between products to emphasize those in short supply and stimulate production.

Concluding, Mr. Bedford observed that in the present supply situation, there is "no margin for laxness, no margin for shut-downs or disasters." With reasonable weather and additional tankers, however, it is felt that the situation can be met, if the consumer cooperates in conserving fueloil. "For his future comfort and health," Institute members were told, "we must see that he does do those things."

It's the
Performa
Fuel
th

Webster Electric Fuel Units

Quality is the first consideration in manufacturing Webster Electric Fuel Units. As a result, here is a fuel unit that can be depended upon. When installed on oil burners, it gives trouble-free performance. This fact has proved itself by the consistent successful demonstration of Webster Electric Fuel Units now in use. This enviable success record makes it possible to buy the Webster Electric Fuel Unit with confidence.

Refinements in design of the duplex regulating valve give a positive cut-off with steady maintenance of pressure. The two-stage unit design with return line continuously purges small air leaks without affecting pressure.

The Webster Electric Fuel Unit is also manufactured in Canada by Canadian Acme Screw and Gear, Ltd., Toronto, Canada.

FACTORY-TRAINED FIELD SERVICE AT KEY POINTS

No dealer is very far away from Webster Electric factory-trained and equipped service. Webster Electric Authorized Service Stations are located at many key points for servicing pump elements that are best handled by experts. This unique Webster Electric field service is available to every oil burner dealer. Write for a list of these stations.

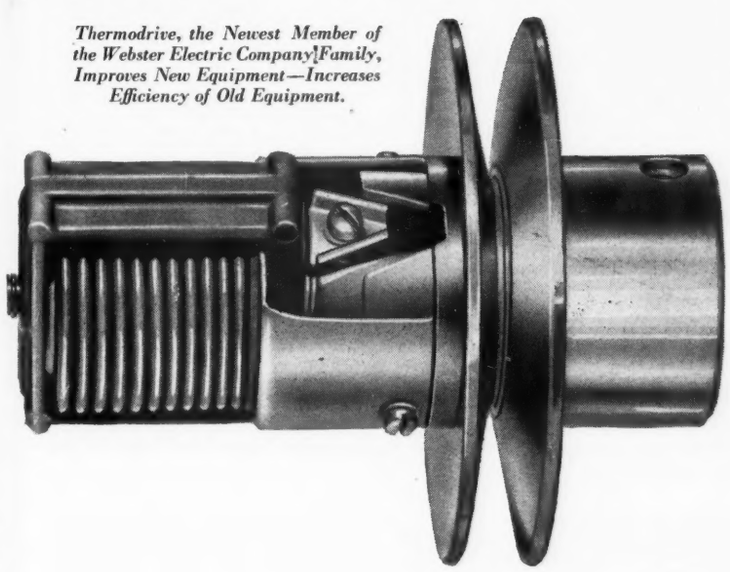
Webster Electric Transformers

Oil burners must have adequate, dependable, instant ignition. That's why Webster Electric engineering skill has perfected this transformer to give satisfaction. As a result, it has become widely known for its dependability and has consistently exhibited quality and sure-fire performance. Webster Electric Transformers are of small, efficient size, interchangeable, and have convenient primary connections and separate mounting plates for replacement. Three sizes offer wide adaptability.

Coils are wound with exacting care and assembled on a core of nonaging laminations. Mica insulation protecting high voltage coils does not lose efficiency with age. The built-in regulation insures ignition of cold oil, even when line voltages are low. A metal shield reduces radio interference to a minimum. They assure you quality and dependable service.

Consistent Successful ance of WEBSTER ELECTRIC Units and Transformers that Creates Popular Demand

Thermodrive, the Newest Member of the Webster Electric Company Family, Improves New Equipment—Increases Efficiency of Old Equipment.



WEBSTER ELECTRIC

Thermodrive

Thermodrive modulates warm air flow by regulating the blower fan speed. It coordinates heat distributed with heat generated, making even room temperatures. Thermodrive gives quicker delivery of warm air at the start of the heating cycle, and longer period of blower operation with lower average speed. Cold air blasts and heat over-runs are eliminated.

Thermodrive can be included as part of original equipment, or installed on warm air heating equipment already in use. It has met an enthusiastic acceptance because of its simple and practical construction.

If you are not already acquainted with Thermodrive, it will pay you to inquire about it. Just drop a line to Webster Electric Company, Racine, Wisconsin.

WEBSTER ELECTRIC

RACINE WISCONSIN

Established 1909

Export Dept.: 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Hope For More Tanks Rests With Aluminum, OHI Hears

STEEL TANKS FOR OIL storage will be short for at least another year, from indications presently available, Paul K. Addams, chairman of the Steel Supply Committee of Oil Heat Institute of America, told the directors at the meeting of the board in Chicago, October 7. Steel sheet and plate is in demand for all purposes far above the supply, he said, and there is little present hope that the situation will ease materially in the immediate future. He told the directors that there was nothing that the organization could do to get steel for tank manufacturers. Each manufacturer will have to work with his suppliers for any steel that he can get, Mr. Addams said.

Aluminum tanks, already approved by the State Fire Marshal of Massachusetts, were mentioned as a substitute for steel. It was pointed out that at least two manufacturers were now in production as others were seriously considering the manufacture of aluminum tanks. Two observers from Underwriters Laboratories were present at the meeting, and spoke briefly on the requirements for getting a listing for an aluminum tank. They said no aluminum tank ever had been submitted for test, and no test code had been established for aluminum oil storage tanks, but the 27 members of the Fire Council already have been asked for their opinions of the problem.

Officials of OHI have arranged for an aluminum tank to be submitted for test at the Laboratories, and it is understood that members of the Laboratories, OHI and the aluminum industry will meet before the end of the month to discuss the procedure. It has been pointed out that some alloys have a high tensile strength, are resistant to acids, and are considerably lighter than steel tanks of the same gauge metal.

Carl R. Jonswold, chairman of the Fueloil Supply Committee, in an interim report, said that transportation continues to be a bottleneck in burning oil supply. Supply and demand are in close balance, he said, and all fuels are adversely affected by the transport shortage. Mr. Jonswold said that the managing director should continue to keep before the membership and the industry, particularly at the distribution level, the need for reasonable assurance of a full season's fuel supply before making an oilburner installation.

Recognizing the continuing conflict in information which reaches the reading public, and the need for authoritative information for all fueloil users and prospective users, the Board authorized the employment of a qualified public relations counsel at once. It is intended that the Institute not only should refute misinformation that appears in the press, but must get correct information before the public before it is misinformed.

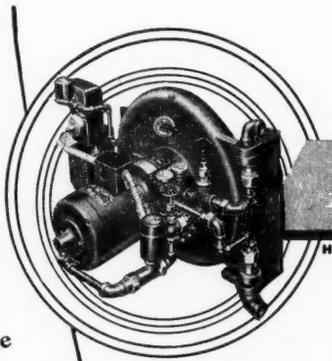
Plans for the Silver Anniversary Convention and Exposition to be held at the Chicago Coliseum, April 5-8, 1948 were

Cordial Invitation

OUR increased production facilities and personnel enable us to satisfy the requirements of a few additional competent organizations capable of selling, engineering, installing, and servicing our complete line of industrial horizontal rotary oil burners.

You are invited to investigate the unusual sales and merchandising advantages of the Ace Uniflow Oil Burner.

A profitable opportunity awaits the right organizations.



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UNIFLOW

HORIZONTAL ROTARY

HORIZONTAL ROTARY

OIL BURNERS

FOR PERFECT HEAVY OIL BURNING UNDER ALL OPERATING CONDITIONS

Models Available

	GALLONS PER HOUR	BOILER H. P.	SQUARE FEET STEAM RAD.
MINIMUM	2	6	800
MAXIMUM	165	500	64,000

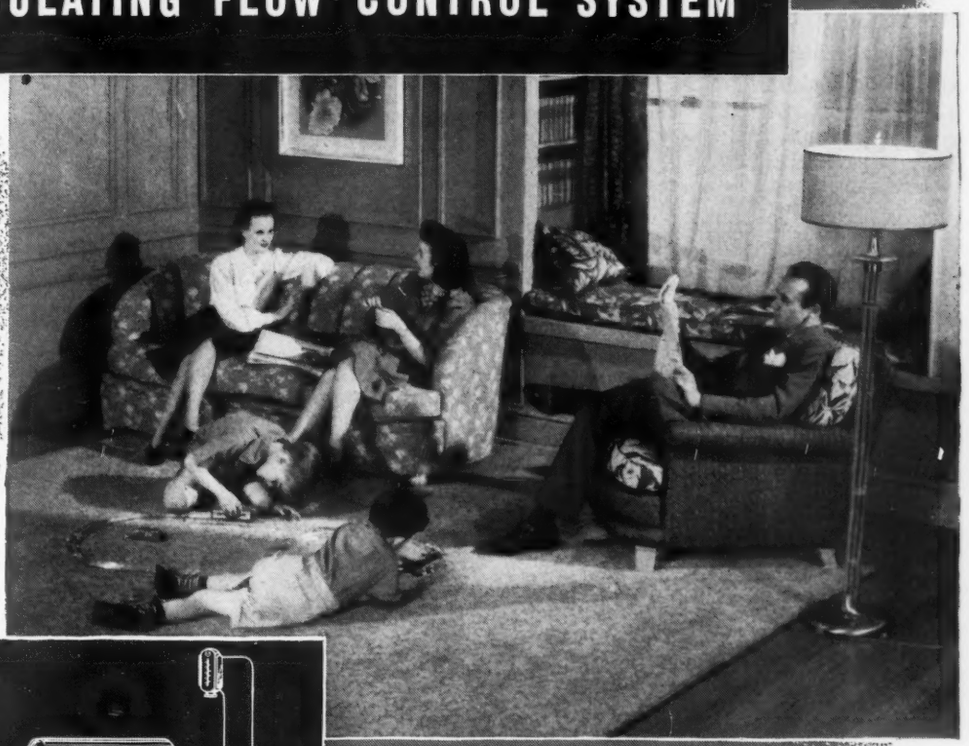
ACE ENGINEERING CO.

1435 W. 15th Street • Chicago, Illinois

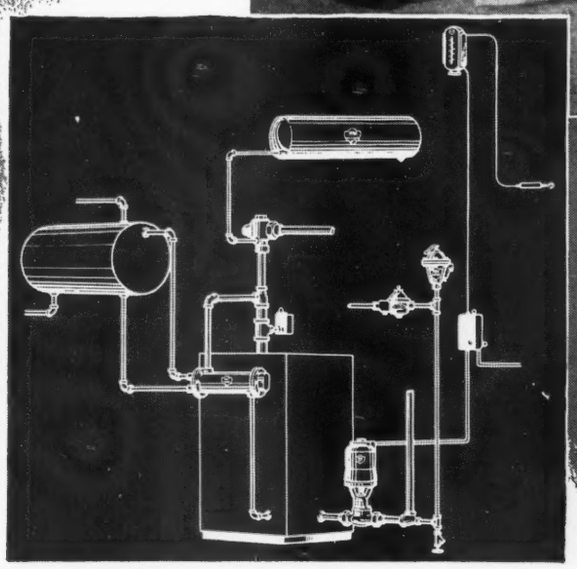
Custom Engineered Oil Burning Systems Since 1931

THRUSH

FORCED CIRCULATING FLOW CONTROL SYSTEM

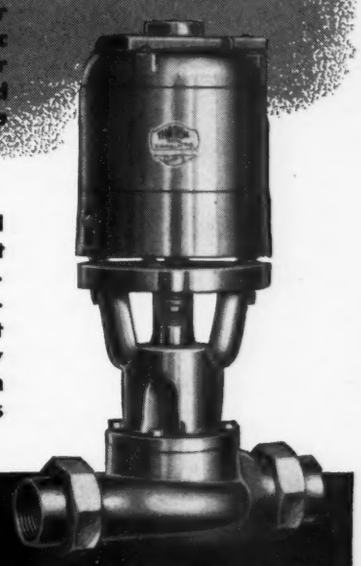


COMPLETELY AUTOMATIC



FOR REAL HEATING COMFORT

Thrush Flow Control System provides completely automatic home heating comfort plus year around domestic water supply for kitchen, laundry and bath from one boiler.



THRUSH WATER CIRCULATOR

YOUR customers will thank you for recommending and installing Forced Circulating Thrush Flow Control System of Hot Water Heat. If panel heating is used, this system provides continuous radiant heat *without* continuous Circulator operation, assuring lowest possible fuel consumption. It also assures constant radiant heat with radiators, convectors, and radiant baseboards. Every Thrush job sells another one for you. If you are not using Thrush equipment, consult your wholesaler or write for literature. Address Department C-11

H. A. THRUSH & COMPANY

PERU . . . . INDIANA

discussed by President Bohn. The Silver Anniversary theme will be carried through the show. Possible television performances will carry the comparison between the equipment of 25 years ago and the present, and every effort will be made to get widest possible publicity for the exposition. The Board authorized the closing of contracts for convention space at Philadelphia in April 1950. Contracts already have been closed for a Boston show in May, 1949.

J. A. Collins, chairman of the Distribution Division, reported that membership in the Associates Chapter of the division had been doubled since the last meeting of the directors. Total membership had increased 18% to bring the division's enrollment up to 1,372. The most recent chapter to join the Distribution Division was the Baltimore group, Mr. Collins reported, and said others were under consideration for Harrisburg, Lancaster and York, Pa.; Richmond, Va., and Ashville, N. C. A. E. Whitehill, national secretary of the division, reported on a broad line of advertising materials that are being made available to the division members.

J. W. Owens, chairman of the Accessory Division, reported that Don G. Leslie of the Torrington Mfg. Co., Torrington, Conn., had been elected to the executive committee of the Accessory Division. The board elected Mr. Leslie to membership on the Board of Directors of OHI to fill the unexpired term of W. A. Kemp. Paul K. Addams was elected to the OHI Executive Committee to fill the Accessory Division vacancy there.

The Board approved the membership application of General Oil Burner Corp., Baltimore, Md., as a member of the Manufacturers Division.

The next meeting of the Board will be held at New York, January 13, 1948.

Shortages Beyond This Winter, Speakers Tell ESPA Audience

SHORTAGES OF PETROLEUM products will continue to plague the country until the early 1950s, speakers told the Fall Meeting of the Empire State Petroleum Association at New York, October 13. Unprecedented demand coupled with shortages of steel for producing, transporting and refining will conspire to keep most petroleum products in short supply.

Barney Majewski, vice-president of Deep Rock Oil Corp., Chicago, pointed to the almost complete mechanization of agriculture; the enormous demand for oil-burners of every type, and the increasing use of automobiles and diesel equipment as factors in the domestic picture that will not decrease. Added to this domestic demand, he said, were growing demands for all products by the armed forces, and undetermined quantity of oil that will go abroad under the Marshall Plan. "To meet this demand will require 5,600,000 bar-

Why Dealers like this KRESKY OIL FLOOR FURNACE

First, exclusively designed Kresky mechanical air induction gives a constant *clean hot flame* regardless of draft.

Second, the Kresky economical "Hi-Lo" pilot control provides steadier heat . . . no cold starts.

Last but not least, Kresky is the nearest thing to trouble-proof . . . it even operates when current goes off. ★ Dealers are invited to write for franchise proposition.

Listed by Underwriters' Laboratories, Inc.

KRESKY MFG. CO., INC.
Pioneers in Oil Burning Equipment Since 1910
PETALUMA • CALIFORNIA

Kresky Oil BURNERS

HEATING • COOKING • HOT WATER • INDUSTRIAL

Why AMERICAN-Standard is the line for you!

AMONG the many reasons why it will pay you to feature American-Standard Heating Equipment are: ACCEPTANCE—No line enjoys greater public acceptance. QUALITY—Back of every product in the famous American-Standard line are research, engineering and manufacturing facilities that are second to none. STYLE—American-Standard products are smartly styled. Their rich eye-appeal makes more sales for you. SERVICE—American-Standard products render long, low-cost service. A fact that has been proved by more than fifty years of outstanding performance. COMPLETENESS OF LINE—American-Standard provides one source of supply for a full line of heating equipment for any type of job. RESPONSIBILITY—American-Standard products are backed by the responsibility of the world's largest manufacturer of heating equipment and plumbing fixtures. For complete information, including details of the convenient Time Payment Plan of the Heating & Plumbing Finance Corporation, for modernization, contact your Wholesale Distributor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pennsylvania.

OAKMONT OIL BOILER

—a trim, moderately priced unit designed and engineered exclusively for burning oil. Operates with highest efficiency with the Arcoflame Oil Burner or any standard pressure atomizing oil burner. Among its many outstanding mechanical and construction features are—

1. Biltin Taco Water Heater (tank or tankless type), available at slight extra cost, provides constant supply of year 'round hot water.

2. Finned Surfaces — specially designed to extract maximum heat from gases as they pass to chimney.

3. Space for Burner. (Arcoflame Burner shown.) Boiler operates as a unit with the Arcoflame or any standard oil burner.

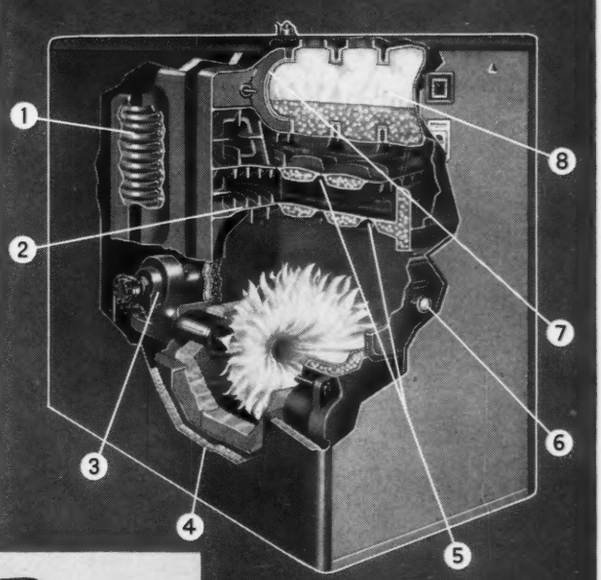
4. Insulated Jacket—streamlined metal jacket with heavy, indestructible, corrugated air cell asbestos insulation.

5. Tight Joints — machine ground surfaces of doors and sections prevent short-circuiting of gases, uncontrolled infiltration of air, and the escape of odors.

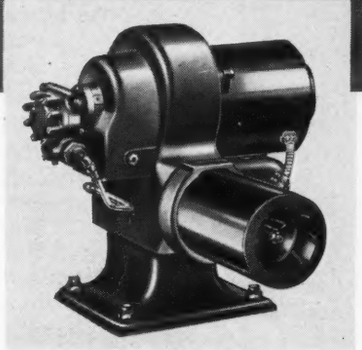
6. Observation Glass — for observing flame without opening door.

7. Extra large Nipples — extend partially below waterline and insure rapid circulation of boiler water.

8. Steam Space — especially large steam releasing area and steam dome insure dry steam at radiators.

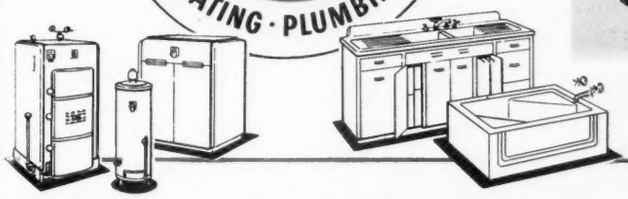


AMERICAN-Standard
HEATING · PLUMBING



THE ARCOFLAME OIL BURNER

The ARCOFLAME Oil Burner with its fuel-saving Sunflower flame features the Turbometer that meters and whirls the air so as to insure a clean flame and complete combustion . . . the Flo-Stat that regulates the oil flow . . . the Arco-Mute Tube that carries the correct amount of oil to the nozzle. Available in capacities of from 1 to 7 gallons per hour.



Serving the Nations' Health and Comfort

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.

fueloil & oil heat

rels a day," he said, reminding his audience that we now are producing 5,250,000 barrels a day.

Mr. Majewski said flatly that the function of the petroleum industry was to supply the product the public wants. He said the industry has no right to tell its customers that they cannot install oilburners, any more than the industry should oppose the sale of new farm machinery, diesel engines, or automobiles. "We do believe," he continued, "that manufacturers should make oil-consuming equipment to handle the products that we can supply in volume. With government demand for high-octane gasoline large and increasing, it is obvious that the industry cannot continue to increase the octane rating of motor grade gasoline, and automobile manufacturers should be told the facts of life. They should design engines to utilize to the fullest the products we can make available, instead of engineering automotive engines for octane ratings that will not be on the market in commercial volume. Similarly, manufacturers of oilburners should recognize the fact that light ends will be lacking from the commercially available fueloils. Oilburners must be designed to handle successfully the distillates and residual oils that we can make."

Figures on the supply situation were supplied by A. L. Nickerson, director in charge of domestic marketing for Socony-Vacuum. He warned that the East Coast supply situation is far from easy; in fact more serious than most people have supposed.

"A comparison of actual vs desired economic stocks in storage as of September 30, 1947," said Mr. Nickerson, "reveals a situation wherein, although gasoline and kerosene are substantially in balance on the East and Gulf Coasts, distillates are 7.5 million barrels short, or 19%, and residuals 4 million barrels, or 9.2% short. It is noteworthy that of the combined East and Gulf Coast shortage of 10,800,000 barrels for the four principal products, 9,000,000 is on the East Coast and 1,800,000 barrels on the Gulf. This reflects a tanker situation that has become increasingly tight throughout the summer and will continue so for the next two to three months, despite last week's constructive decision of the maritime commission to re-commission 96 laid up tankers, about 25% of which will be used by the Navy.

"While it is recognized," Mr. Nickerson continued, "that the above figures are exclusive of product in secondary storage, it is felt that East and Gulf Coast refiners will have to produce yields of kerosene and distillate combined of 29.3% in the fourth quarter and 30.6% in the first quarter of 1948 after having produced only 26.2% in the third quarter. This is an extremely important point and must be watched with the greatest care. In terms of distillates alone, East Coast refineries must produce a yield of almost 22% in the fourth quarter and 23.8% in the first quarter of 1948. Their previous maximum distillate yield of 22.4% was reached in January 1946, but this was for one month only during which the economics of refinery operation were in favor of distillate production. The reverse is in effect at this time and in view of it, it appears to be wishful thinking to expect the needed high sustained distillate yields, unless the spread between gasolines and heating oils is altered in favor of heating oil."

It is expected that it will take the in-

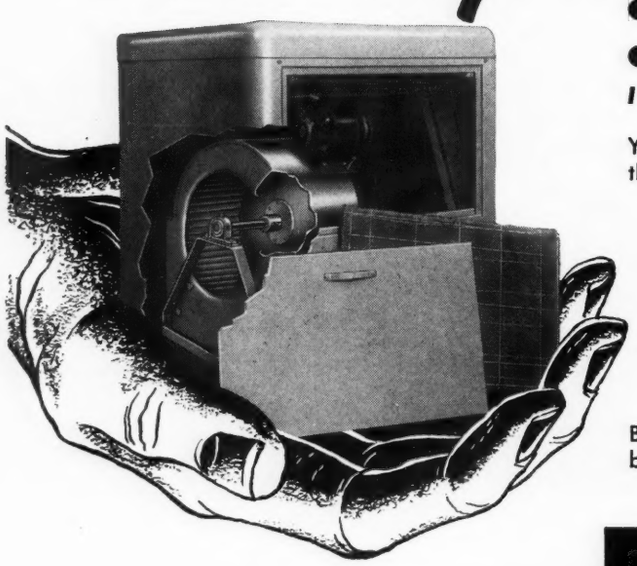
Brundage GIVES YOU . . .

● QUIET OPERATION

● DEPENDABLE PERFORMANCE

● EASY INSTALLATION

IN SERIES 200 AND 300 BLOWER CABINETS



You get quiet operation in a Brundage Blower Cabinet because the blower is designed right and made carefully of high quality materials. The fan wheel is hot riveted to the hub and the blades are hot riveted to the wheel. The shaft runs in self-aligning pillow blocks making the whole assembly rigid, smooth-running and vibrationless. Nationally known makes of motors are used.

And you know that when you install a Brundage Blower, it will continue to give quiet, dependable service for years to come because Brundage uses heavier materials, designs Brundage Cabinets for greater strength and longer life. Better construction makes Brundage Cabinets easier to install, too, because dimensions are accurate and all parts fit together easily. Install Brundage for customer satisfaction and greater profit.

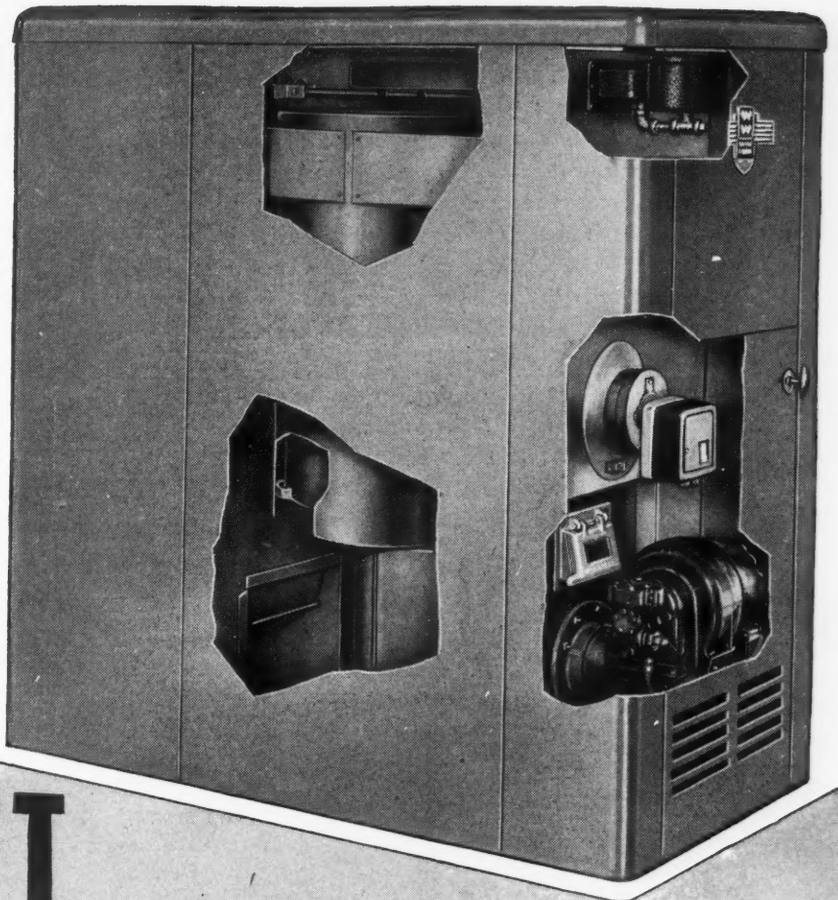
Send for complete description and specifications of Series 300, The Economy Unit, and Series 200, the DeLuxe Unit, Brundage Blower Cabinets.

THE Brundage COMPANY

Blower Specialists Since 1919

543 NORTH PARK STREET
KALAMAZOO 11, MICHIGAN

IT'S WHAT'S UNDER THE CASING THAT COUNTS



Waterbury

Oil Fired Air Conditioner

Whether you are installing a simple gravity job or the most complete air conditioner, it's what's under the casing that counts for your customer's satisfaction—and for a trouble-free sale for you.

A modern, compact, attractive unit, economical to buy—economical to operate. It is enclosed in an eye-appealing casing that is a compliment to the most modern basement—but what is equally important to you—because of the efficiency and quality of what is UNDER that casing, you are saved annoying service calls.

FURNACES FOR EVERY SIZE HOME AND EVERY TYPE FUEL—FROM GRAVITY MODELS TO COMPLETE AIR CONDITIONERS.

THE WATERMAN-WATERBURY COMPANY

1171 JACKSON ST., N. E., MINNEAPOLIS 13, MINN.

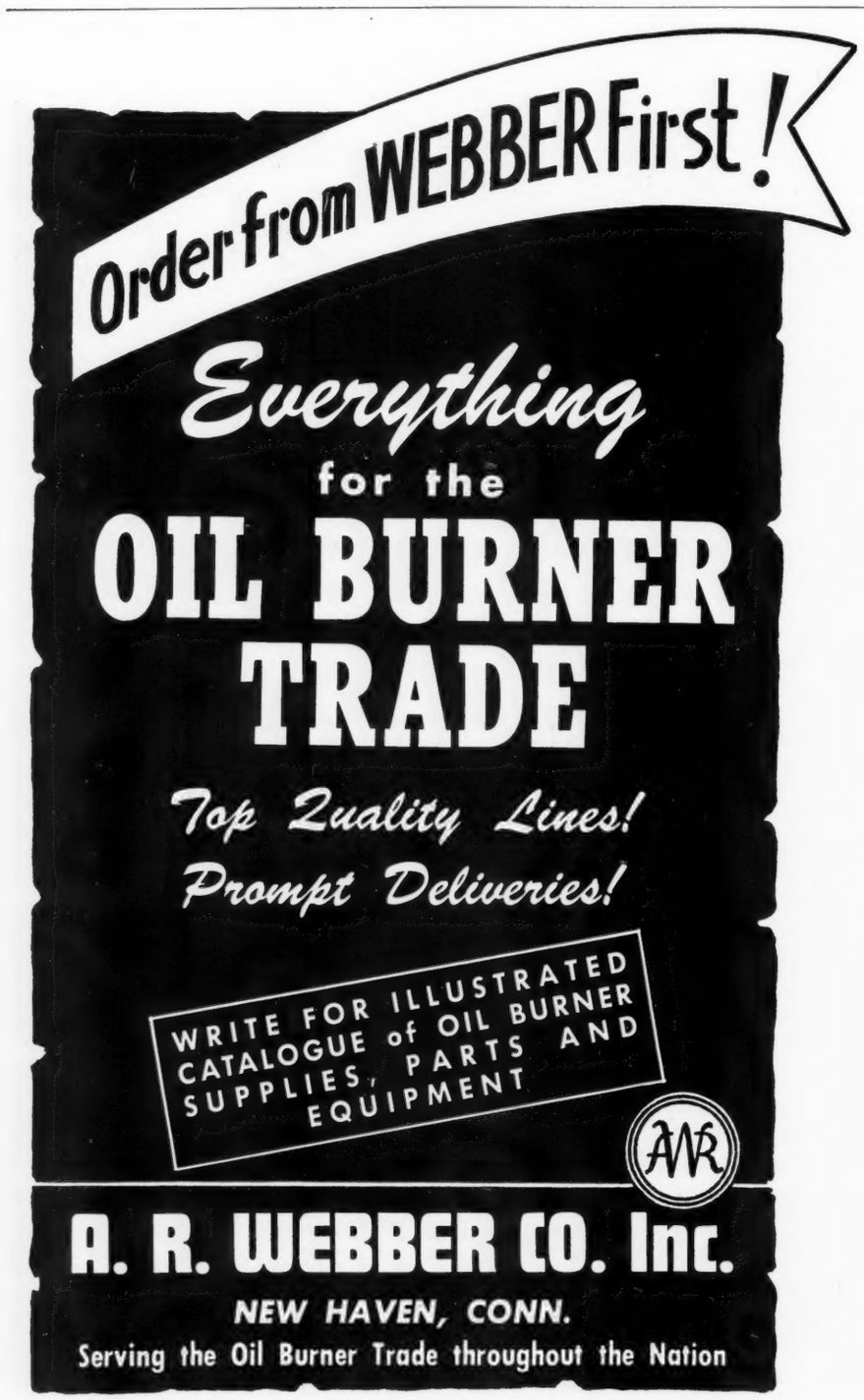
Fueloil & oil heat

dustry two to three years to overcome the handicaps of the war years, Mr. Nickerson said. He expects little or no improvement in the supply picture during that time. "This," he said, "indicates two things: First that it is unwise for the industry to encourage its customers or prospective customers to convert to oil from coal or other forms of fuel. In this area the terrific increase in the rate of new oil-burner installations is, in large measure, responsible for our whole supply problem. Our industry needs nothing so much as a breathing spell and a chance to catch up with the existing demand. Second, that we should use our influence on that great segment of American industry that manufactures equipment using oil products to concentrate on the more economical and more effective use of the fuels that we in the petroleum industry provide."

M. J. Rathbone, president of the Standard Oil Co. of N. J., was the speaker at the annual banquet. He took a more optimistic view of the fueloil supply outlook, stating that he believes the industry can just squeak by the winter with supply and demand in exact balance, providing we have no labor tie-ups and a normal winter. He did explain in this connection that an exact balance of supply and demand means that there will be spot shortages because it is impossible to avoid some companies having more than their share and others having less. He also feels that the industry faces headaches in handling the situation because there may be numerous local emergencies.

In a discussion of jobber margins, Rathbone stated that there is no question in his mind but that all margins today must be substantially above prewar. He does not believe it expedient to have margins so high that the inefficient or high-cost operator is always protected. In defending Jersey's "Hold-the-line" policy, he believes that it is definitely in the public's interest and in the industry's best interest and that the future will prove this to be true. He recognizes that while a few toes were stepped on as a result of the policy, that in the overall very few people have been hurt. He emphasized that Jersey is not using that policy to acquire new business.

Replying to charges of unfair treatment in allocation of available supplies, Rathbone insisted that in his company every jobber or distributor shares equitably with the company's own direct marketing operation.



M. W. Crew, manager, Industrial Control Div., Perfex Corp., Milwaukee, Wis., has been elected first vice president, Smoke Prevention Association of America. His election is in recognition of his authorship of articles and engineering manuals on the subject of smoke abatement. His most recent contribution was the booklet, "Smoke, Its Cause, Cost and Prevention," which has been donated by Perfex to smoke prevention authorities and has been used widely as an instruction piece in technical training programs. Mr. Crew has been active for a number of years in association and engineering society affairs and for the past two years served as chairman, Fuel Conservation Council for War.

LATEST ADDITION TO A DISTINGUISHED FAMILY

A NEW LINE
of NATIONAL Residential STEEL BOILERS!

Designed specifically for homes, smaller apartments and small commercial installations. National Residential Steel Boilers are available in 13 sizes ranging in net rating from 275 to 3,000 square feet of steam radiation.

This new line of National Residential Steel Boilers embodies the most modern engineering practice for design and production of boilers for mechanical firing. Here are a few of the reasons why you'll be proud to specify "National"—

√ **FAST, DEPENDABLE HEATING** with multi-tube construction that more effectively brings hot gases and water in contact with heating surfaces.

√ **FUEL ECONOMY**—through the use of modern engineering design—turbulator tube baffles and more generous insulation of jacket and doors.

√ **LOW INSTALLATION COST**—boiler and platework are factory-assembled as a unit. Easy handling through small doorways eliminates costly building changes.

√ **LONG, TROUBLE-FREE LIFE** is assured through high-grade flange quality steel construction and genuine Electrunite tubes. Design and construction meet all requirements of the Steel Boiler Institute Testing and Rating Code, and the American Society of Mechanical Engineers' Boiler Construction Code. All boilers are inspected during construction by a representative of The Hartford Steam Boiler Inspection and Insurance Company. These features add up to a quality product. Specify nothing less! Many makes of boilers do not meet these requirements.

√ **DOMESTIC HOT WATER SUPPLY**—year 'round, is available with storage or tankless heaters covering a wide range of capacities to meet requirements of homes, smaller apartments and small commercial installations.

√ **SMART STYLING** with a handsome flame-red jacket and contrasting crinkle-cast black platework.

Contact your nearest Heating Contractor, your NRC heating sales branch or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania, for full product information.

NRC

The NATIONAL RADIATOR Company
JOHNSTOWN, PENNSYLVANIA

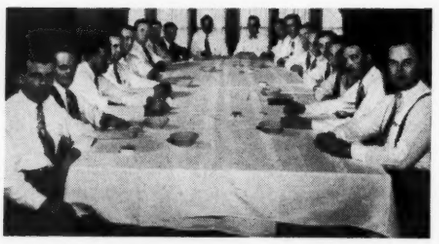
fueloil & oil heat

Manufacturers Activities

Webster Service Station Men In Conference on Fuel Units

REPRESENTATIVES of eleven eastern authorized service stations for the Webster Electric Co., Racine, Wis., gathered at Hartford, Conn., recently as the guests of L. U. Giannettino, proprietor of Bell Pump Service Company. L. S. Ehrich, service manager of the Webster company, represented the factory.

These companies render repair service on Webster fuel units and transformers in their areas under factory supervision, with factory-trained men using genuine Webster parts. This is designed to eliminate the necessity of sending parts back to the factory for repairs, saving time and effort. The service station system, organized in 1935, is given credit for a big assist in keeping burners running during the war, when the factory was too busy with production for the armed forces to do this type of repair work.



Service Station Representatives: *(Left to right)* **B. Krohl** *and* **W. Strowbridge,** *Buffalo Fuel Pump Service;* **J. Dorchek,** *Certified Fuel Unit Service, Elizabeth, N. J.;* **R. Tintle,** *Certified Fuel Unit Service, Philadelphia, Pa.;* **R. Younson,** *A. B. Wolle Co., Scarsdale, N. Y.;* **T. Kablich,** *Bell Pump Service Co., New Haven, Conn.;* **L. S. Ehrich,** *Webster Electric Company, Racine, Wisconsin;* **L. U. Giannettino,** *Bell Pump Service Co., Hartford, Conn.;* **R. E. Eldridge,** *Oil Heating Supply Company, Framingham, Mass.;* **E. L. Kimball,** *E. L. Kimball Co., Malden, Mass.;* **Earl H. Clark,** *Earl H. Clark Co., Portsmouth, N. H.;* **W. Stanhope,** *E. L. Kimball Co., Malden, Mass.;* **M. Champagne,** *R. I. Fuel Pump Service, Providence, R. I.;* **C. Posé,** *The Capson Co., Brooklyn, N. Y.;* **B. Michel,** *R. E. Michel, Baltimore, Md.;* **E. A. Porter,** *Buffalo Fuel Pump Service, N. Syracuse, N. Y.*

Mr. Ehrich is chief of the service station program for Webster, working both with the sales and engineering departments. He is responsible for training service personnel and keeping the service organizations informed on model changes and improvements in service technique. He also is charged with establishing new stations as the need arises. There now are 37 stations blanketing the country in an effort to offer "over night" service on oil-burner parts to dealers.

Ko-Z-Aire Mfg. Co. New Name Of The Kerrihard Company

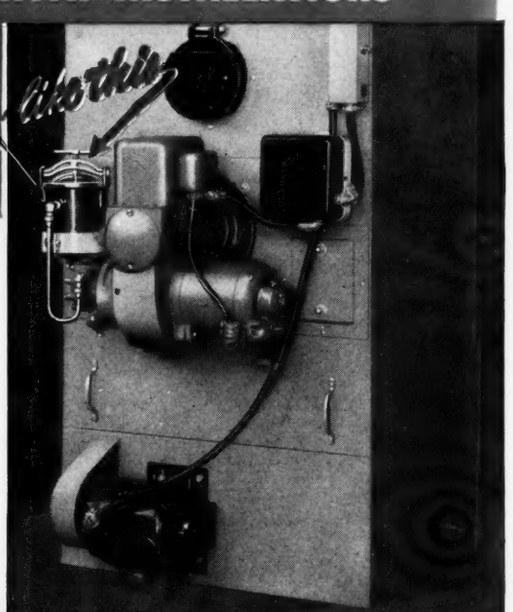
A RECENT ANNOUNCEMENT reveals that The Kerrihard Co. has changed its name to Ko-Z-Aire Mfg. Co., Red Oak, Iowa, advancing as the reason that since the firm is devoting its entire production to Ko-Z-Aire winter air conditioning units, the new name is more appropriate.

Jones and Brown, Pittsburgh 19, Pa., are national sales distributors for the company, which has available a line of four sizes of automatically fired furnace-burner units.

The General

★ Make profits on every installation.
★ Eliminate troublesome call backs.
★ Build regular repeat business through cartridge replacements.
★ Help customers save money by giving cleaner burning fuel.
★ Build goodwill and customer loyalty by providing trouble-free operation.

CAN INCREASE YOUR SERVICE DOLLAR VOLUME WITH INSTALLATIONS



General HAS THE RIGHT FILTER FOR EVERY OIL HEATING PLANT!

The *General* is popular with all contractors, dealers and fuel oil service companies because it has proven the best fuel oil filter for heating plants, hot water heaters, and room heaters. The *General* will prove a profitable leader for you, too! Report after report in our files bear out these statements.

For average installations three models, DeLuxe 2A-300, Master 2A-700 and Economy 1A-25, are outstanding leaders in the *General* line because they are priced to sell easily, built to give long-lasting service, and designed to provide high-degree performance.

There is no better time than *now* in letting *General* Fuel Oil Filters increase your service dollar volume. Contact your jobber immediately or write direct for information and discounts.

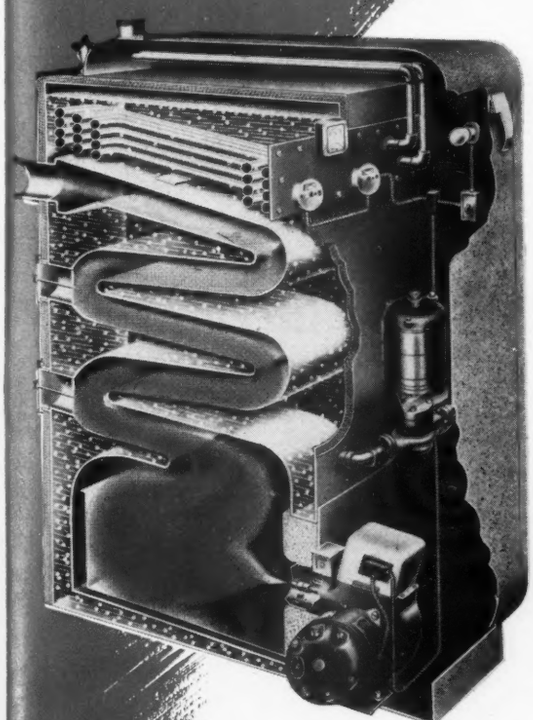
Listed: Re-examination Service, Underwriters Laboratories

GENERAL FILTERS INCORPORATED — GENERAL FUEL OIL FILTER — 12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: GENERAL FILTERS CANADA, 173 STRACHAN AVE. • TORONTO 10, ONTARIO

"Hey, Mister! Get Out Of That Basement!"

Less Installation Time . . . More SELLING Time . . . With PENN



PENN *Packaged Heat* oil and gas fired units are manufactured in all capacities for residential installation

The dealer who will have the best chance of holding sales volume will be the dealer who spends more time selling . . . less time installing.

That's why PENN *Packaged Heat* offers its dealers an especially timely advantage. PENN *Packaged Heat* cuts installation time because PENN is the only automatic boiler-burner unit—for oil or gas firing—that's *delivered with all parts and controls mounted and wired at the factory.* It helps you or your staff come out of the basement and make those calls that are now of vital importance to continued good business. For competitive selling is fast coming back.

The patented construction of PENN *Packaged Heat* also offers another timely advantage. Installation savings can be passed along to your customers as a price reduction—which helps you overcome consumer price resistance. And the price of a water heater is *included* in your selling price for PENN Packaged Heat Units provide automatic hot water all year round.

Get out of that basement --with PENN Packaged Heat!

Export Office
80 Broad St.
New York 4, N. Y.

Ontario Rep.
R. G. Dibble Co.
Toronto, Can.

Canadian Dist.,
(exclusive of Ontario)
Actrite Equipment Co. Montreal

PENN BOILER and BURNER MFG. CORP.
LANCASTER, PENNSYLVANIA

Diesel-American Appoints Philadelphia Distributor

BETTER-HEAT CORP., Philadelphia 34, Pa., has been named as exclusive distributor of oilburners and units made by Diesel Oil & Burner Corp. of New York, Jamaica 5, N. Y. Raymond H. Lewis and Charles H. Courtney, owners of Better-Heat,

have long been associated with the oil-fired heating and air conditioning field, both domestic and industrial, and are well acquainted with specific problems in the Philadelphia area.

Plans for expansion include provision for early appointment of dealers in adjacent localities to handle Diesel-American equipment.

Monarch Manufacturing Moves To New and Larger Quarters

SINCE September 22, Monarch Manufacturing Works, Inc. has been located at new and larger quarters at 2501 East Ontario St., Philadelphia 34, Pa. At this location additional plant facilities have been provided to permit increased production of Monarch oilburner nozzles, air cones and stabilizers and pressure regulating and cut-off valves.

Esso Cuts Resid Deliveries

HEAVY OIL DELIVERIES along the East Coast have been cut by Standard Oil of New Jersey, Colonial Beacon and Standard of Pennsylvania, according to a letter sent to customers. The reduction in deliveries will last a month, and probably longer.

Customers buying residual oils from these companies were advised to convert to other fuels where possible. It was pointed out that the refineries were producing record quantities of oil, but were unable to keep up with the demand. Shortages of standporation were given as a reason for the cut in deliveries.

Name Two Representatives For Weather-Man Controls

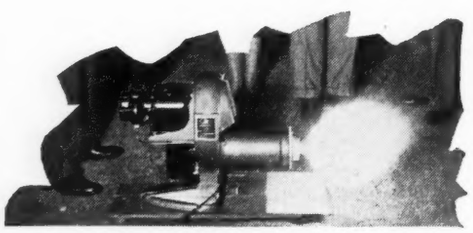
APPOINTMENT of two representatives has been announced by Automatic Devices Co., Chicago 4, Ill. The representatives, who will supervise sales and distribution of Weather-Man outside type temperature control, are John E. Brecht & Co., Cincinnati 14, Ohio, who has been assigned the territory embracing southwestern Ohio, central and eastern Kentucky and C. W. Gates & Associates, Baldwin, Kansas, who will operate in Kansas and Missouri.

Penn Electric Booklet Shows Heating System Wiring Diagrams

AN INFORMATIVE, comprehensive booklet, prepared by Penn Electric Switch Co., Goshen, Ind., entitled, "Wiring Diagrams for Heating Systems," is designed to simplify installation and wiring hookups. It contains various, typical diagrams for systems fired by oil and coal, and incorporates diagrams for application of Penn controls to each type of system.

Diagrams for oilfired installations cover both continuous and intermittent opera-

You don't have to be a Magician to make Oil go farther this Winter



AN AMAZING DEMONSTRATION — Beckett COMMODORE burns outdoors without aid of fire box—ignition OFF—retains normal flame.

—if you sell really up-to-date replacements for oil wasting, worn out equipment.

Nor is it sleight of hand to prove to your customer that the Beckett COMMODORE saves oil—

1. ***When STARTING*** **. . . no warming up necessary . . . see illustration**
2. ***When RUNNING*** **. . . superior mixing of air and oil . . . see illustration**
3. ***When STOPPING*** **. . . air shutter closes when burner stops . . . usual fixed air gate eliminated . . . up to 15% fuel savings.**

Proof that the Beckett COMMODORE saves every minute of the heating season.

SOME COMMODORE FEATURES

- Lower nozzle temperature
- No burner parts exposed to high temperatures
- Progressive air rotation — positive air delivery makes cleaner, quieter, hotter fires
- More dependable ignition
- Automatic damper control—saves fuel
- High tension cable eliminated
- All rotating parts dynamically balanced
- Motor and pump shafts accurately aligned
- Four main assemblies — accessible, special tools not needed
- Easy installation and adjustments — tamper proof
- Finger-tip air control —tamper proof

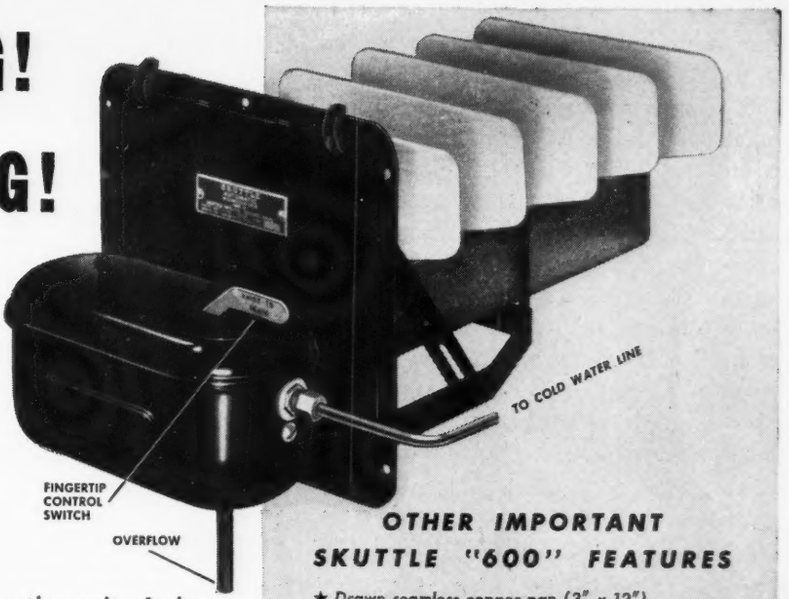
THE R. W. BECKETT CORPORATION
ELYRIA, OHIO

Manufacturers of
COMMODORE Oil Burners

FOR HOMES — SCHOOLS — CHURCHES — APARTMENTS — BUSINESS BUILDINGS — SPECIAL APPLICATIONS

Self FLUSHING!
Self CLEANING!

AUTOMATIC CLEANING NOW POSSIBLE IN THE NEW SKUTTLE HUMIDIFIERS



IT'S TRUE! Skuttle Automatic Humidifiers (Series 600*) are completely self-flushing, completely self-cleaning! All you do is raise the fingertip control switch to flushing position and Skuttle's new exclusive vacuum-controlled cleaning system does the rest . . . flushes the entire unit, drains off all water, sludge, mud and mineral deposits, then automatically trips off to allow unit to refill again to valve adjustment level! No hand scraping required, no clean-out panel necessary! Simple, convenient, foolproof!

The Series 600 saves you installation time over any other type of humidifier.

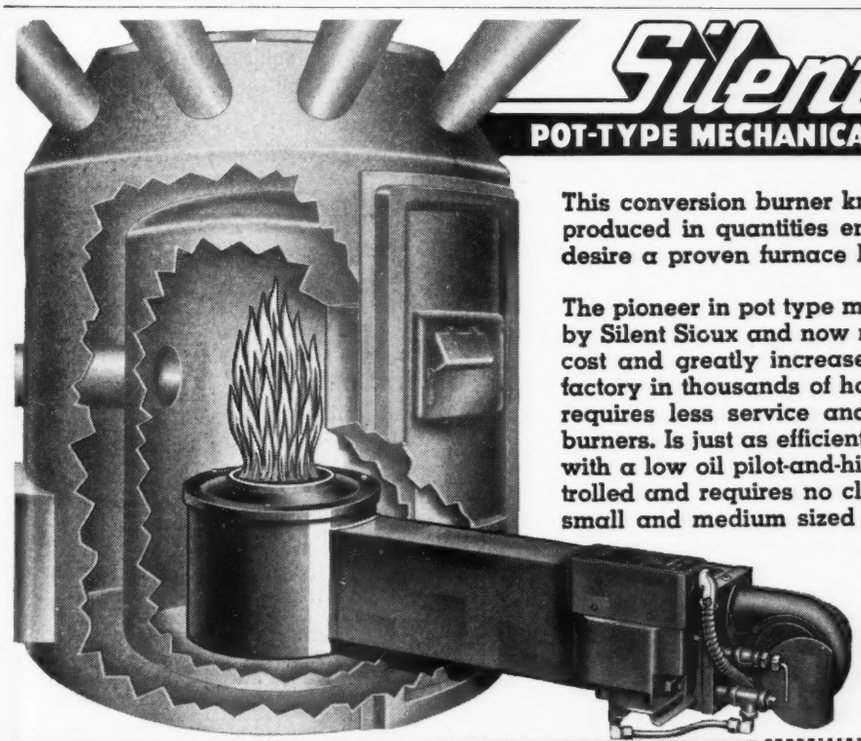
**Patents Pending*

OTHER IMPORTANT SKUTTLE "600" FEATURES

- ★ *Drawn seamless copper pan (3" x 12").*
- ★ *Replaceable VAPOGLAS* evaporating plates.*
- ★ *5 plates furnished. Evaporating area 316 sq. in.*
- ★ *Automatic anti-siphon float control valve.*
- ★ *Collar fits sloping or vertical bonnets.*

See your local jobber or write today for state listings and the complete Skuttle story!

Skuttle MANUFACTURING CO.
4099 BEAUFAIT, DETROIT 7, MICHIGAN



Silent Sioux
POT-TYPE MECHANICAL DRAFT FURNACE BURNER

This conversion burner known as Model FB-14 is again being produced in quantities enabling us to offer it to dealers who desire a proven furnace burner.

The pioneer in pot type mechanical draft furnace burners built by Silent Sioux and now redesigned, making possible a lower cost and greatly increased efficiency. Proven entirely satisfactory in thousands of homes in the past 25 years. Cheaper, requires less service and is more quiet than pressure type burners. Is just as efficient and operates entirely automatically with a low oil pilot-and-high operation. Thermostatically controlled and requires no cleaning. It is the preferred burner for small and medium sized homes. Especially adapted to convert coal burning hot air furnaces to an oil-burning type.

The burner comes complete with controls, low voltage room thermostat, transformer with 8-inch draft regulator. Requires no bricked-in combustion chamber. Simply remove grates and ash door and install the burner. Easily installed. Factory assembled.

SUPPLY YOUR TRADE WITH A TIME-PROVEN BURNER.
SOLD ONLY THRU REPUTABLE DEALERS. IMMEDIATE DELIVERY.
MAIL COUPON AT RIGHT FOR COMPLETE INFORMATION.

MANUFACTURED BY
SILENT SIOUX OIL BURNER CORPORATION
ORANGE CITY, IOWA

SILENT SIOUX OIL BURNER CORP.
Orange City, Iowa
Please send complete information on Conversion Burner Model FB-14

Name .....
Address .....
City ..... State .....

tion for steam and gravity hot water systems, forced circulation and zoned control hot water systems, gravity and forced warm air installations. A full page is devoted to each diagram, which clearly shows wiring procedure and is accompanied by an explanation of the sequence of operation, which describes the action of each control through one complete cycle. The reverse side of the page pictures and labels the component parts of each control set covered by the diagrams.

Also included are diagrams for unit heater control circuits, employing line voltage thermostats and with auxiliary heat actuated thermostats. There are also diagrams for stoker, gas boiler and damper motor control circuits.

Oil-O-Matic Regional Meetings Stressing Sales and Service

OIL-O-MATIC DIV., Eureka Williams Corp., Bloomington, Ill., has been sending its sales and service experts into the field for regionalized meetings, according to W. A. Matheson, Oil-O-Matic Div. manager. This is being done so that the dealers and their service personnel could have the benefit of sales and service training even during their busiest season.

Regis Plante, who conducts factory retail sales and sales management clinics, has arranged twenty-two meetings and factory service school instructors, Emory Wiseman and Louis Schwobe, have conducted a series of sixty meetings, working with field service engineers in the various areas.

Two factory service schools sessions held on October 20 and 27 concluded the series of meetings until early December, at which time retail sales and management clinics will resume.

Cleaver-Brooks Names Wymbs As New York Distributor

DISTRIBUTION of Hev-E-Oil burners in New York City and Long Island now is under the supervision of Frank Wymbs, 1775 Broadway, New York 19, N. Y., according to an announcement by J. V. Resek, manager, Hev-E-Oil Burner Div., Cleaver-Brooks Co., Milwaukee 12, Wis. George S. Siggins, Irvington, N. J., who acted as temporary distributor in the territory until a permanent appointment could be made, is concentrating his efforts in his original territory of New Jersey.

Cleaver-Brooks has increased manufacturing facilities and revamped the sales department devoted to Hev-E-Oil burners. At the same time, they are engaged in broadening distribution of these pressure atomizing burners, using No. 5 oil, and have introduced new models with capacities up to 25 gph.

Davisbilt Products Holds Two Day Sales Conference

DISTRIBUTORS and sales representatives from all over the country attended the two day annual sales conference held October 8 and 9 by Davisbilt Products Co., Cincinnati 2, Ohio. The meeting considered and formulated sales and distribution plans for 1948 during sessions conducted by E. H. Malden, executive vice president. A dinner at the Cincinnati Club, with President J. F. Winchester acting as toastmaster concluded the meeting. Mr. Malden reviewed sales potentialities at a session after dinner and Walter S. Peper, New York and L. O. Halverstadt, Cleveland, outlined sales operations in their territories. Mae E. Rieser, Rieser-Ernest and Associates, discussed effective use of advertising and merchan-

Solve Your Soot Problems Without Service Interruption!

Increase Heat Transfer Efficiency!

Protect Boilers and Flues!

HERCULES SOOT DESTROYER

HERCULES SOOT DESTROYER is non-explosive, non-inflammable, harmless to heating systems. Used with oil burners with the Hercules Soot Destroyer Blow Gun, it is a specially prepared powder which vaporizes when introduced into the boiler, travels up the flue and deposits itself on the soot, causing the soot to become ignited and burn itself away.

Soot is an ever-present oil burner problem with long cycle operation and high CO_2 flames; it is a cause of deterioration of boilers; and it can be a serious fire hazard.

HERCULES SOOT DESTROYER is a specialized SOOT DESTROYER and is a guarantee of the value of—

HERCULES SPECIAL CHEMICALS FOR SPECIAL JOBS IN OIL BURNER MAINTENANCE

HERCULES

Hercules Fuel Oil Sludge Solvent	Hercules Boiler Cleaner (Liquid)
Hercules Oil Burner Parts Cleaner	Hercules Oil Line Cement
Hercules Boiler Liquid	Hercules Boiler Solder

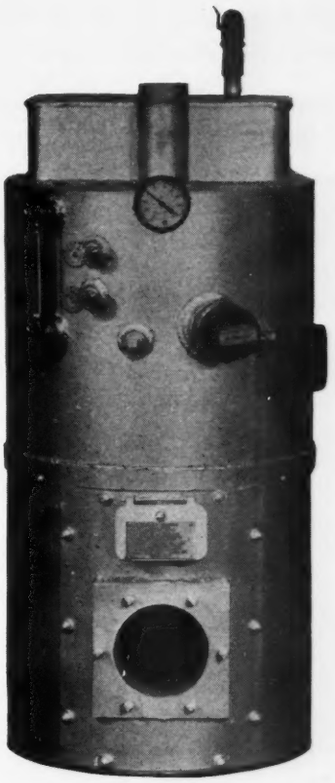
—and eighteen other outstanding products

Backed with 32 years experience in serving the heating industry—ask your jobber for HERCULES CHEMICALS FOR OIL BURNER SERVICE. Write for full details.

HERCULES CHEMICAL CO., Inc.
332 Canal Street New York, 13 N. Y.

STEEL BOILERS

BUILT LIKE A BATTLESHIP'S BOILERS FOR STEAM, VAPOR, OR HOT WATER



Many features not just one make UTICA Boilers the leaders in value.

UTICA Boilers are made from premium quality corrosion resisting steel.

The amazingly efficient shape of the special flues (patent applied for) in UTICA Boilers literally scrubs out the last B.T.U. of useful heat.

Year around domestic hot water is provided by efficient built-in tankless copper coils—standard equipment on all models.

Jackets of outstanding beauty are easily installed after piping.

Increased efficiency and heating comfort plus real fuel savings result from the superior boiler insulation supplied.

Flue surfaces are fully accessible for cleaning.

Full view of fire is provided through the large hinged inspection door.

CYLINDRICAL BOILERS

Only One Style To Stock For Either Steam Or Hot Water.

180 Gallon Per Hour Tankless Coils Standard. Larger Sizes Available For U-700 & U-900.

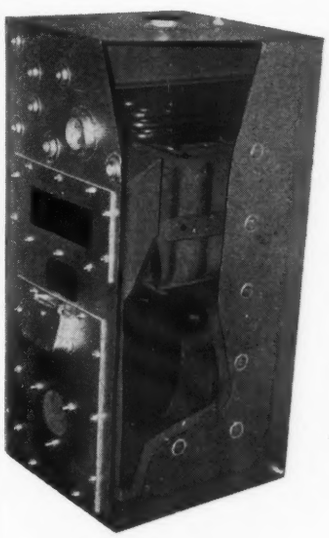
Dry Base—Triple Insulated.

Quick-Glow Insulating Refractory Combustion Chamber.

STANDARD RATINGS		
Model	Steam	Hot Water
U-320	320	510
U-700	700	1120
U-900	900	1440

All models may be oil or gas fired.

The cylindrical models are suitable for pot and rotary burners as well as gun-type units.



RECTANGULAR BOILERS

Full Wet Base & Bottom With Fuel Saving Chrome Alloy Combustion Chamber.

180 Gallon Per Hour Tankless Domestic Hot Water Coils Are Standard Equipment.

RATINGS	
Model	Radiation
550S	500 Steam
880HW	800 Hot Water

Blast tube openings to suit your requirements and flange mountings when desired can be supplied.

The extended deluxe jackets will enclose 99% of the burners manufactured today.

The large jacket cabinet doors facilitate the servicing of burners and equipment.

The neat compact design of UTICA Boilers makes installations easy. Models A and U-320 will pass through a 22 inch door. The larger models U-700 and U-900 only require a 27 inch door.

Thousands of UTICA Boilers in service all over the world are establishing remarkable records of fuel economy and efficiency.

Die stamping of parts, the most modern production methods and many years of steel fabrication experience make it possible for us to offer these exceptional boiler values to manufacturers and distributors for assembling packaged boiler-burner-units.

BOILER DIVISION

UTICA STRUCTURAL STEEL, INC.

DEVEREUX BLOCK, UTICA 2, NEW YORK

dising and conducted a round-table discussion on distributor participation.

Report Successful Operation of Wage Scale Based on Living Cost

IN MARCH 1946 Michigan Tank & Furnace Corp., Dearborn, Mich., established a system of sliding wage scales for all production employees. The system, still operating successfully, relies upon information compiled by the Bureau of Labor Statistics to establish the cost of living index. When the index rises, the hourly wage scale is raised one-cent for each point of increase, and, in like manner, if there is a decrease in the index, the hourly rate is adjusted at one-cent per hour per point.

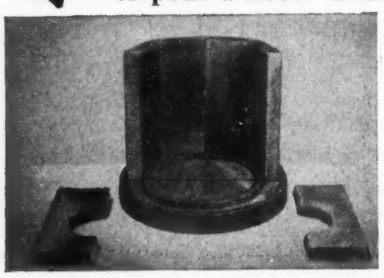
Another incentive introduced by Michigan Tank & Furnace, manufacturers of oilfired water heaters and tanks, provided for profit-sharing. Resultant production increases brought about greater profits for the year ending June 30 and provided bonuses for employees ranging from $377 to $628, depending upon total number of years of continuous employment.

New Sections Can Be Installed Easily and Quickly

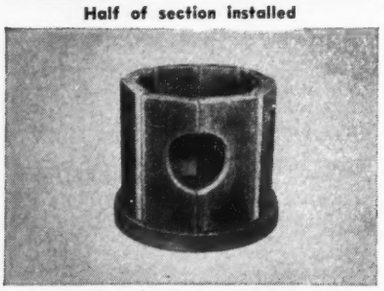
If, after long service, one or more sections of an R&I DeLuxe Combustion Chamber need repairs, simply lift them out and slip in new ones. That saves work, time and money.

Without cutting or fitting, this R&I Chamber can be installed quickly with bonding clips, which fasten sections firmly together without cement.

Another big time and work saver is that you don't have to pour a floor. There is a precast refractory floor with grooves into which the sides can be quickly fitted.



Half of section installed



The chamber completed

Everything needed to do a complete job is packed in a strong carton.

On top of their other advantages, R&I DeLuxe Chambers cost less and can be installed in a third the usual time.

Get them from your supply house. Write us for our interesting Bulletin OB-99.

REFRACTORY & INSULATION CORP.
116 WALL ST. NEW YORK 5, N. Y.
Chicago 4, Ill. Newark 2, N. J.
Philadelphia 3, Pa.

R&I Deluxe Combustion Chamber

Rheem Adds to Sales Staff; Establishes Boston Warehouse

A NEW ENGLAND district office, located at 131 Beverly St., Boston 14, Mass., established by Rheem Mfg. Co., New York, N. Y., will be managed by Edward J. Hutchings. Vaughn G. Gooding will function as sales representative in that territory. In the southeastern regional appliance district, Jules P. Soudain, New Orleans and James E. Nighbert, Knoxville, Tenn., have been added to the sales staff. Mr. Soudain will cover southern Louisiana, southern Alabama and western Florida; Mr. Nighbert, eastern Tennessee, northwestern North Carolina and part of South Carolina.

Petro House Organ Issued Designed For Consumer Use

PETRO NEWS, a four-page publication which made its bow in September, will be issued periodically by Petroleum Heat & Power Co., Stamford, Conn. The News contains item of general interest to home owners and apparently will be distributed locally by dealers to prospects.

The first edition contains information on fueloil supply, a food recipe, a discussion of when and how to oil electric oilburner motors and a step by step process to follow when starting a burner after summer shutdowns.

Leece-Neville Building Fractional Horsepower Motors

AFTER confining its activities largely to building of specialized equipment for automotive, aviation, marine, diesel and stationary fields use for thirty-eight years, Leece-Neville Co., Cleveland, Ohio, has announced expansion into a line of fractional horsepower motors.

According to S. Floyd Stewart, executive vice president, volume production already has been attained on a line of AC motors for oilburner use. Production capacity is 5,000 units a month, all of which is going presently to a single customer.

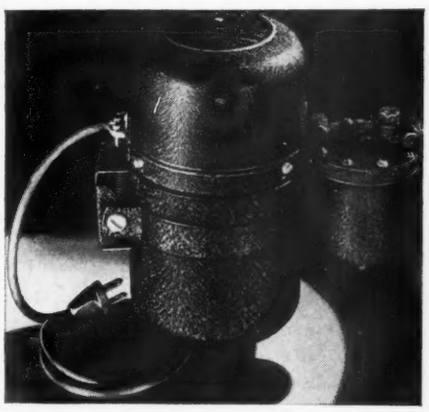
Sid Harvey, Inc. Enlarges Facilities at New Rochelle

SID HARVEY, president, Sid Harvey, Inc., Valley Stream, N. Y., has announced that the firm has leased the store adjoining their New Rochelle, N. Y., branch, to provide larger facilities. Also, a new pick-up and delivery service has been established for the Westchester County area served by the branch.

New Products

A-P Oilifter For Vaporizing Oilburners, Furnaces, Heaters

DESIGNED for attachment to any heating device employing a vaporizing oilburner,

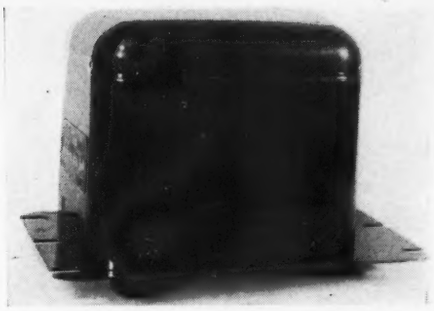


the new Oilifter, announced by Automatic Products Co., Milwaukee 10, Wis., automatically lifts oil from storage tanks to appliances 25′ above the tank, or 100′ distant horizontally. It is connected to the heater oil control and to the storage tank in the basement or outdoors and requires only a single ¼″ tubing, without return line. The device is powered by a silent-operating electric motor that can be plugged into the standard home circuit. Furnished complete with cord and filter unit, Oilifter has a capacity of 1¼ gph maximum, which often is sufficient to supply oil to more than one appliance.

The unit is offered as an additional accessory to existing installations and also as standard equipment on new vaporizing heaters.

Palmer Ignition Transformers Distributed by Dorn Equipment

A LINE of ignition transformers, announced by Palmer Electric Mfg. Co., Inc., Wakefield, Mass., has primary rating of 115 volts, 250 volt amperes, 50 or 60 cycles and secondary rating of 10,000 volts, 2.2 milliamperes. Enclosed in attractive cases, the transformers are readily adaptable to most standard oilburner frames, but the company is prepared to supply units to meet special applications. A built-in barrier eliminates radio interference and the transformers are furnished with primary leads 24″ in length.



National distribution of the line is being handled by Dorn Equipment Co., Boston 10, Mass.

Hercules Heating System And Boiler Cleaner Liquid

A BOILER and heating system cleaner, available from Hercules Chemical Co., Inc., New York 13, N. Y., is a hydrous colloid, which requires no draining or flushing when applied to normal boilers or systems. When systems are very old, dirty or rusty, or where there is an excessive amount of sediment, flushing and draining usually is necessary.

The cleaner, packed in pint, quart, half gallon and gallon cans, is recommended for the effective removal of rust, scale, oil, grease, slime and solids which cause foaming and priming.

Jack & Heintz Production Starts on Oilburner Motors

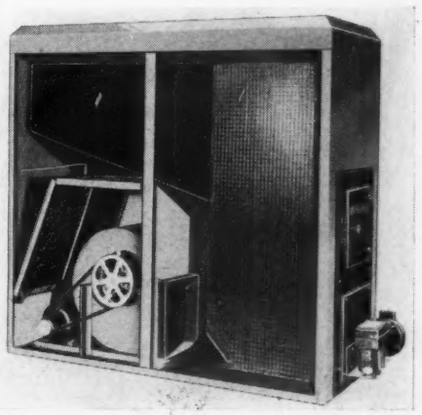
PRODUCTION of a newly designed electric motor for oilburner application has been undertaken by Jack & Heintz Precision Industries, Inc., Cleveland 1, Ohio. The new motor, an extension of its present

line of capacitor start and split phase fractional horsepower electric motors, is designated C1604-25 and is a 1/6 hp, split phase type, designed to operate on 115 volts, 60 cycles, with a constant speed of 1725 rpm. A manual reset overload protector is built-in.

The motor, which is totally enclosed for trouble-free operation, can be furnished for right or left rotation and is equipped with standard NEMA two-lug mounting frame with concealed through-bolts.

No. 140 High Boy Model Added To Line of Vapor-Oil Furnaces

A NEW MODEL, added to the line of Vapor-Oil furnaces, manufactured by Auto-



matic Furnace Co., North Lansing 5, Mich., has been designated No. 140 High-Boy. It employs a square heat exchanger with a 4″ x 12″ diagonal flue and has a rating of 80,000 Btu output, dimensions, 25″ x 25″ x 72″. Five other models, one gravity and four forced air furnaces, are rated from 80,000 to 174,000 Btu output. The units are designed to heat, filter and circulate air during the winter and to circulate cool basement air during the summer.

The Vapor-Oil burner, which fires all units, utilizes the vaporizing principle, with two-speed forced draft for pilot and high flame. Oil flows into the burner by gravity, where it mixes with air supplied by the burner fan. The same burner fires all units, since air and oil can be adjusted to vary the burner capacity.

Fire Proven Tankless Heaters For Single or Manifold Use

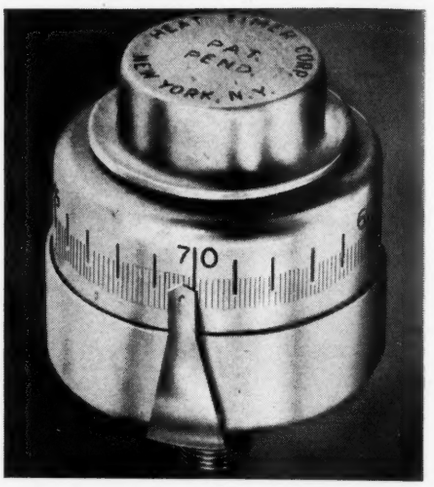
THREE SIZES of tankless water heaters, developed by Fire Proven Products, Baltimore 2, Md., installed individually will supply domestic hot water requirements

for homes and small apartment buildings. Manifolded, they may be hooked up to provide any amount of hot water desired. Capacity ratings for the three heaters, 180° F. aquastat setting, are 3¾, 5 and 8 gals. per minute. The heaters consist of a welded steel shell, welded-in head to which coils are attached with bronze connectors. The domestic water side is made entirely of bronze and copper so that domestic water does not come in contact with iron.

When installed as recommended by the company, the tankless heater becomes an integral part of the heating system, and cannot be by-passed, except the small part intended to be by-passed.

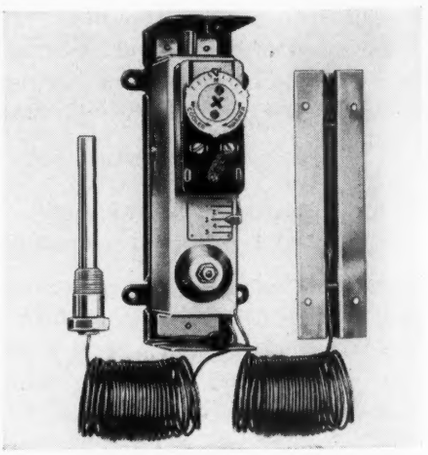
Heat Timer Radiator Valve Controls Room Temperature

A STEAM RADIATOR VALVE, which may be installed on any one-pipe steam system and which automatically controls the temperature of each radiator, is announced by Heat Timer Corp., New York, N. Y. The valve, installed in place of the air valve, resembles in appearance the ordinary air vent, and has etched on its cylindrical side a scale of temperatures ranging from 55° to 80°. A movable indicator is rotated until it points to the desired temperature reading, after which the valve will discharge air automatically only when the temperature within the room falls below the selected setting. Settings may be changed as often as desired, but whenever temperatures fall below them, steam enters the radiator until the thermostat within the valve closes the vent. No steam feeds into the radiators when heat is not wanted.



Indoor-Outdoor Type Control Announced By White-Rodgers

TWO TYPES of an indoor-outdoor control, one for radiant panel installations, the other for conventional radiator-convector systems, has been announced by White-Rodgers Electric Co., St. Louis 6, Mo. The control, operated by hydraulic action, has two sensitive bulbs, one of which is installed outside the building to measure outdoor temperature, the other bulb being inserted in the heating system to measure average water temperature. Two simple adjustments are necessary, one to establish the water temperature required



Sell something really NEW in AUTOMATIC HEAT!

Instead of trying to adapt an oil flame to combustion ideas inherited from the old coal furnace, the Bethlehem Dynatherm employs an entirely NEW principle of oil burning—the Dynatherm "whirling flame" for maximum efficiency and economy. The Dynatherm is designed about this flame.

TURNS EVERY LAST DROP OF OIL INTO USEFUL HEAT

The Bethlehem DYNATHERM
WITH THE WHIRLING FLAME

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

THE BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

NOT ONLY NEW!
NOT ONLY DIFFERENT!

BUT

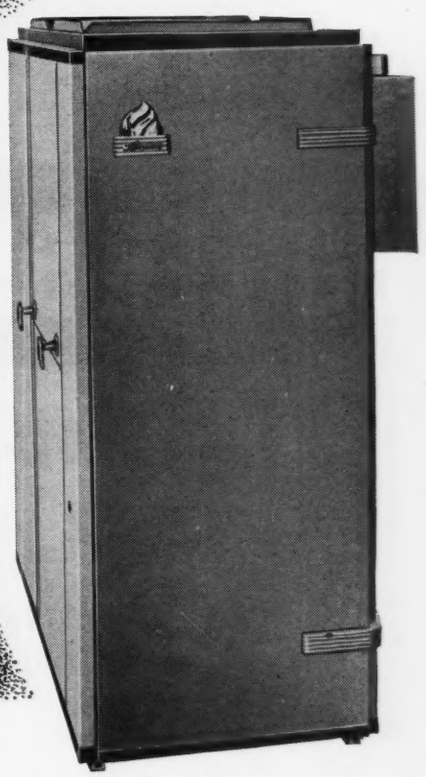
Beyond Comparison

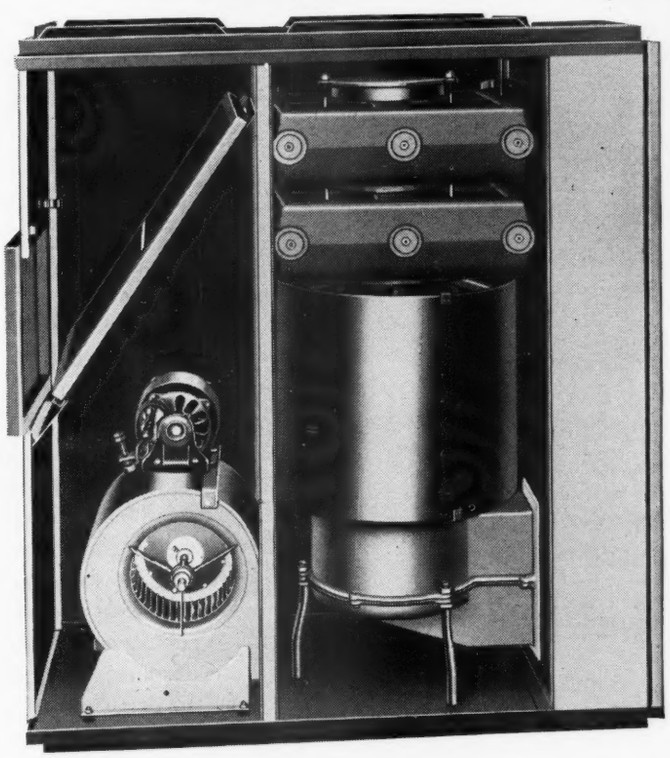
Luxaire's New

CAST IRON

GAS FIRED

AIR CONDITIONING UNITS





Luxaire's ingenious engineering has created this New . . . Different . . . Incomparable . . . cast iron, gas-fired heating unit—the unit that is unsurpassed in innovations that are revolutionary in the design and construction of modern heating equipment.

There's *not* one single vertical joint in the entire heating assembly—the tightest, most leak proof heating element ever produced.

The one-piece cast-iron radiator is provided with cleanout ports that are always easy to remove.

Only 6 castings with asbestos rope-packed horizontal cup joints in the entire assembly.

In a half hour or less the entire heating unit can be removed without disturbing the cabinet duct work or dismantling the gas manifold.

The units have passed all high and low temperature limits established by the American Gas Association.

THE C·A·OLSEN MANUFACTURING COMPANY

Luxaire HEATING & AIR CONDITIONING UNITS

ELYRIA 12, OHIO

fueloil & oil heat

to fulfill comfort requirements of the occupants and the other to vary the water temperature in accordance with outside weather conditions, balancing heat loss of the specific installation.

The purpose of the control is to permit the system to operate at lower water temperatures during mild weather to prevent over-runs and uncomfortably warm rooms, and to operate during cold weather at higher water temperatures so that the boiler supplies the proper amount of heat to balance heat loss from the building under all outside conditions. Furnished with the controls are charts illustrating temperature curves with five settings.

Brumme Booster Fans Provide Positive Air Circulation

FOR THOSE ROOMS which do not receive sufficient heat or circulation in domestic warm air systems, Brumme Mfg. Co., Bloomington, Ill., offers two models of booster fans, installed in warm air pipes. Model 08R, shield mounted fan, fits pipes from 8" to 12" in diameter and is installed by cutting a 3" x 6" opening in the side of the pipe through which the unit is inserted and screwed in place. Model W, cased fan, comes installed in a short length of pipe from 8" to 14" in diameter and is installed the same as a section of warm air pipe. The fans may be plugged into ordinary 110 volt A.C. house circuits, may be connected to a fan and blower controlled installed in the furnace bonnet or may be installed to be actuated by a thermostat in the affected room.

Operating at approximately 1400 rpm, six sizes of fans deliver from 88 to 400 cfm. All sizes are equipped with the same size single-phase, shaded-pole type motor and Hela-Koid fan blades.

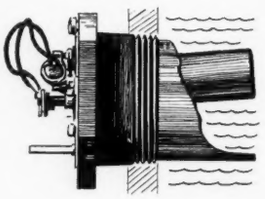
BOILER BUILDERS

HERE'S A **LOW-WATER CUT OFF**

THAT'S ***2 WAYS BETTER***

BRONZE CONSTRUCTION

A Newark Controls exclusive—resists rust, scaling, corrosion. Add a "plus" in lasting satisfaction to your products.



AUTOMATIC FLUSHING

A Newark Controls exclusive. A "plus" in user-convenience.

Sizes for all types of low-pressure boilers. Cut-off alone—or combined in same compact unit with adjustable pressure control. Furnished complete with hookup fittings. Easy to install.

MAIL IT

SEND ME DETAILS on the complete Newark Controls line of low-water cut-offs for modern boilers.

NAME ..... TITLE .....

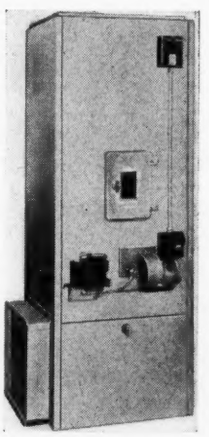
COMPANY .....

ADDRESS .....

Newark Controls 15 Ward Street Bloomfield, New Jersey

Castle Oilfired Furnace Unit Designed for Small Home Use

AN AUTOMATICALLY oilfired furnace unit which has a bonnet capacity of 61,220 Btu/hr. at 0.04" draft with C.S. No. 2 oil, has been announced by Castle Industries Co., Inc., Yonkers 3, N. Y. Model OF-60 UB furnace is designed for basement or utility room installation in small homes, stores, service stations and similar applications, and is fired with a mechanical draft vaporizing oilburner. The blower-motor combination draws 16 watts and features a slow speed, centrifugal multi-blade type blower, self-lubricating bronze bearings and an improved self-compensating rear motor mounting with V-belt drive.



Unit is shipped completely assembled, wired and equipped with combination fan and limit control, all burner controls, thermostat, draft regulator, filter and filter frame. A 1" turned up flange at the bonnet is provided for duct connection and another flange permits hook-up at the filter frame. Return connections can be made at either the side or rear of the unit.

Set Consists of Six Sizes Of Carboloy Masonry Drills

A SET of masonry drills, available from Carboloy Co., Inc., Detroit 32, Mich., is furnished in a canvas kit and consists of the six most commonly used sizes, 3/16 in., 1/4 in., 5/16 in., 3/8 in., 1/2 in. and 5/8

A FAMOUS NAME 17 YEARS OLD

Everedy

brings you a complete line of advanced design oil burners

- Five Underwriters' Approved burners cover entire firing range from .65 to 20 gallons per hour
- Fewer models, advanced design, and mass production lower costs — give value that wins you sales and profits
- Designed and built by pioneer oil burner engineers to give finer performance, easier installation, and greater fuel economy
- Companion line of seven burner-boiler units with exclusive features — 340 to 3500 sq. ft. steam E. D. R.
- Write, wire, or phone for full facts on the Everedy and Oiltronic line and franchise details

MT. HAWLEY MFG. COMPANY
Mt. Hawley Airport
Peoria, Illinois

Everedy

Direct air, rail and truck service from our doors to you

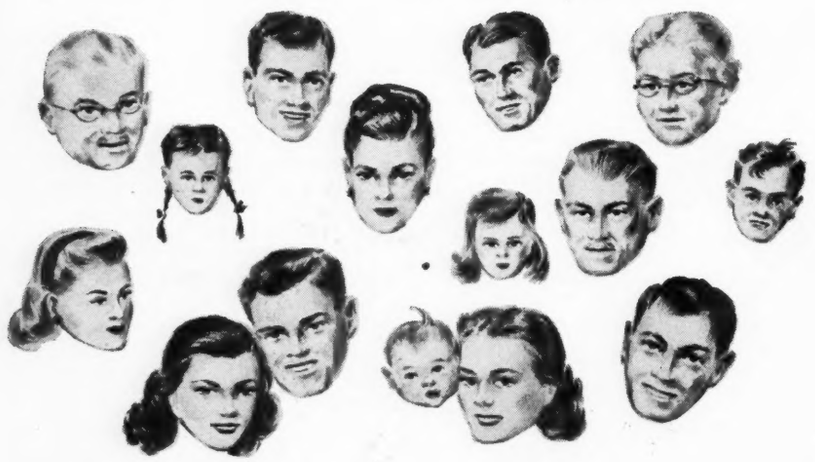
mhm CO.

fuelail & oil heat

in. diameters. The improved line of Carboloy masonry drills includes fifteen sizes, ranging from 3/16 in. to 1½ in. and features a solid round shank without flutes to give greater strength and maximum support to the cemented carbide cutting tip. Wide-spread demand for the drills, which drill holes in concrete, brick, tile, marble, slate or plastics, has permitted a general price reduction on each drill size some 40% below previous levels.

The drills can be used in rotary portable drills or hand brace and can be accommodated also in drill presses. Because the cemented carbide tip approaches the diamond in hardness, it is possible to space holes closely together without breakthrough and its hardness contributes to a long-lasting keen edge.

Over a Quarter of a Million Families are Enjoying Solid Heating Comfort with **B&W FIREBOXES**



The heads of these families may not know much about the refractories in their oil burner fireboxes. But they *do* know that their dealers have provided them with solid heating comfort at low cost.

This record of customer satisfaction is a real convincer for the dealer who installs better fireboxes made of B&W Insulating Firebrick. Prospects become customers in a hurry when you show them the figures on thousands of installations where long performance has proved that B&W Fireboxes—

1. **Save fuel due to more efficient combustion**
2. **Minimize odor, soot and smoke**
3. **Assure smoother, quieter burning**
4. **Respond quickly to thermostat demands**

Have you received your copy of the B&W FIREBOX HANDBOOK? If not, send for it today. It is an informative guide to customer satisfaction—and more sales for you—through better firebox design.

R-297

B&W REFRACTORIES PRODUCTS

B&W 80 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 80 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS

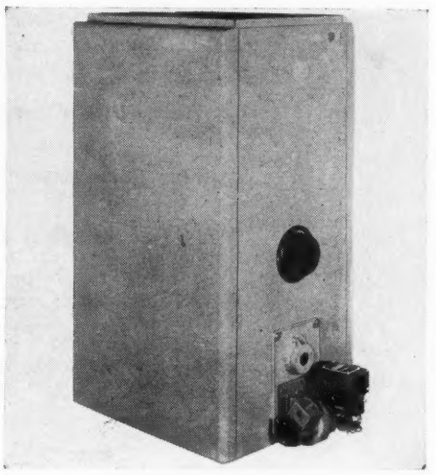
Stationary & Marine Boilers and Component Equipment
Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers
Fuel Burning Equipment . . . Pressure Vessels . . . Alloy Castings

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

Capitolaire Gravity Oil Furnace Fired With Vaporizing Oilburner

GAV-O Series Capitolaire gravity oil furnace, introduced recently by Capitolaire Div., United States Radiator Corp., De-



troit 26, Mich., is fired with a vaporizing burner and has been designed for installation in small homes with heat losses from 50,000 to 65,000 Btu. The oilburner is of the mechanical draft type, with built-in automatic electric oil-air control, which affords completely automatic operation after original ignition through the entire range from full oil flow for high flame to low fire position when the room thermostat is satisfied. Throughout the entire cycle the oil-air control adjusts the motor speed to furnish proper air draft for the amount of oil being delivered.

The furnace cabinet measures 25¼" wide, 52⅜" high and 28⅜" long, weighs 288 lbs. and is fabricated from heavy gauge furniture steel, finished in baked enamel. Firebox and radiator are constructed of copper bearing steel, are shielded arc-welded.

Wild Automatic Fueloil Pump Supplies Oil Control Valve

MODEL 530 automatic fueloil pump, made by Wild Mfg. Corp., Manchester, Conn., formerly the Trumbull pump, can be applied to any vaporizing oilburner, range, space heater, furnace or water heater to convert into completely automatic operation. The Wild 530 is a self-contained device with a high suction, double check

PROFITABLE DEALERSHIPS OPEN!

ONE UNIT FOR BOTH WARM AIR HOME HEATING AND DOMESTIC WATER HEATING.

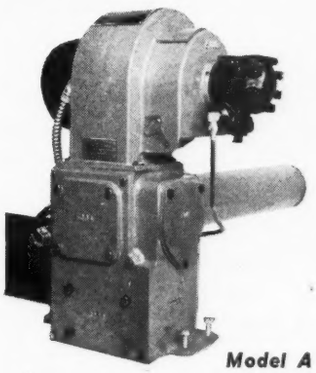
NEW . . .

Exclusive, patented features give you something to talk about . . . and something to sell.

LOOK AT THIS GREAT LINE!

PROVED . . .

In the trade this unit has been proved by popular consumer acceptance. Yes, it is Underwriters and Commercial Standards approved.



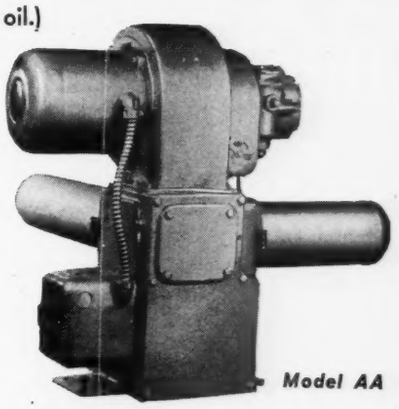
Model A

DESIGNED FOR EASE OF SALES, INSTALLATION AND SERVICE

Customers with present satisfactory water heating systems will like this unit. It can be converted into a DUALFLAME (Model AA) and water heating facilities added at any future time.
(Cap. 1 to 3.5 gal. per hour. #1, 2, or 3 fuel oil.)

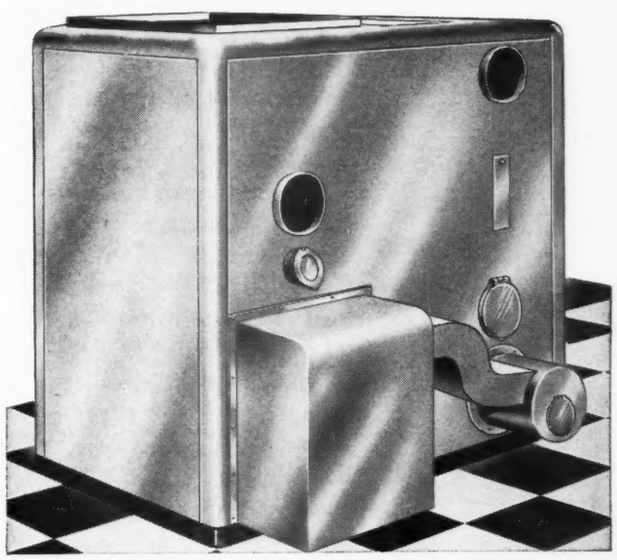
DUALFLAME'S TWO PURPOSE UNIT

You'll be proud to show this DUALFLAME model . . . and happy at the sales you'll make. The Model AA is a dual conversion oil burner fulfilling both home heat and domestic water requirements. The domestic water boiler, its jacket and refractory shipped with each Model AA.
(Cap. 1 to 3.5 gal. per hour. Water heater .85 gal. per hour. #1, 2, or 3 fuel oil.)



Model AA

A NEW FORCED WARM AIR FURNACE WITH "SALES APPEAL"



Model A1

This new forced air furnace rounds out our line. For customers requiring a new heating plant, here's the job you can sell with confidence. The water heating feature is optional. It may be incorporated at time of sale, at time of installation or at any future date. The burner is of the high pressure type for both heating operations.

SIZE: 26" x 46" x 61" high. Vestibule adds 11½" to width. Water heating unit encased in this area. Water heating capacity 91.2 gal. per hour through 100° temperature rise on all DUAL units.

Water heating is entirely automatic, winter and summer. Water heating does not interfere with fan operation for summer air circulation.

INQUIRIES INVITED

You will like the price and dealer margin under a DUALFLAME franchise. Exclusive dealerships open in certain areas. Write today for full information.

DUALFLAME COMPANY

124 N. METCALF ST.—AN OHIO CORPORATION—LIMA, OHIO

valve type pump that draws oil from a remotely-located storage tank and feeds the oil as needed to the unit's oil control valve. An overflow pipe is provided to eliminate the danger of too much oil in the reservoir if the pump should fail to shut off automatically or if the feed line clogs. A three position switch controls operation of the pump motor and functions to prevent the pump from starting if power fails or if the storage tank runs dry.

A die casting housing, made of Zamak #3, covers the motor in a separate enclosure to permit easy removal. Pump operates at a speed of 350 rpm, and has a capacity of 1½ gph on a 30 ft. lift; 2 gph on 20 ft. lift and 2½ gph on 10 ft. lift. A receptacle on the front of the pump allows a bottle of fueloil to be inserted in case of power failure or mechanical breakdown of pump.

HomEase Model TMO-A Rated From ¾ to 1.5 Gph Capacity

A GUN TYPE conversion oilburner, the first in the 1947-48 program of the company, has been announced by HomEase

Products Div., Bogue Industries, Paterson, N. J. Model TMO-A is a small burner, with capacity ranging from ¾ to 1.5 gph and is made of same standard production parts as the established HE-1 model, but is priced down to capacity.

The burner's short blast-tube and placement of the blower housing parallel to the air tube makes it readily adaptable to installation in jacket-enclosed boilers. The TMO-A is equipped with flame shape control, a HomEase development, and while not furnished as standard equipment, the "Fire-Stat" may be fitted to the burner at the factory. This latter development automatically provides one kind of air-oil mixture for cold starts and another for normal running with fire-box hot.

Black & White Offering Line Of Boiler and Pipe Chemicals

BLACK & WHITE CHEMICAL CO., New York 54, N. Y., offers a line of chemicals for boiler and pipe conditioning and repair. Metal-Fix is a mineral composition designed to repair cracked water and steam boilers, radiators, cracked fittings, stripped threads, split nipples, cracked hubs and sand holes in pipe and fittings. Usual procedure requires heating of the part to be repaired with a blow torch hot enough to make the Metal-Fix flow freely when pressed against the crack or break. The compound is said to penetrate to the underside of the crack and is effective in correcting imperfections on cast iron, steel, brass, copper, lead, malleable and galvanized iron parts.

In addition Black & White is distribut- a metallic boiler stop leak, which consists of an aluminum powder which is added to boiler water and, when set, expands and contracts with boiler metal at all times to

Increase the life of your firebrick setting

R & I # 3000 Refractory Cement clings to firebrick with a bulldog grip because it is so finely ground that it penetrates far into every pore of the brick. This permits its use for thin joints.

It does not shrink, spall, bulge, crack, puff or fall out under the most severe firing conditions. Brick are protected against slag and abrasion.

Intermittent firing will not crack # 3000 for it has the same expansion and contraction as No. 1 firebrick. It air-sets at normal temperatures and gains full strength without heat.

Extra life can also be added to brickwork by wash-coating it with R & I # 3000. It is ideal for hot or cold packing.

Look for the green drum. Your supply house has it.

Bulletin R-44 contains some interesting facts. Write for a copy.

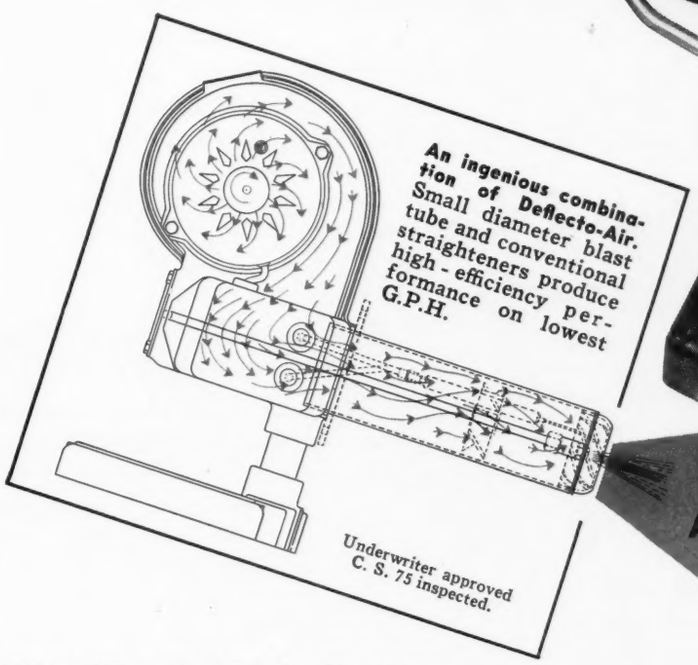
REFRACTORY & INSULATION CORP.
116 Wall Street New York 5, N. Y.
Chicago 4, Ill. • Philadelphia 3, Pa.
Newark 2, N. J.

R&I #3000 Refractory Cement

Who Says

There's Nothing New Under The Sun?

A complete line—.75 to 15 G.P.H. Model H-2 shown.


An ingenious combination of Deflecto-Air. Small diameter blast tube and conventional straighteners produce high-efficiency performance on lowest G.P.H.
Underwriter approved C. S. 75 inspected.

A New Kind of Oil Burner by

WINKLER

Featuring the

DEFLECTO-AIR PRINCIPLE

Winkler "Econo-flame" design lifts oil burner performance to a new high—introduces improvements you've wanted for a long time.

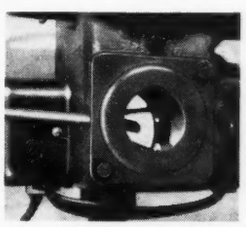
The Winkler Deflecto-Air principle, for example, does away with a number of deficiencies which have always been a service headache. This radical departure from conventional designing offers two major advantages—

1. It maintains the correct mixture of oil and air for instant ignition and complete combustion.

2. It so *equalizes* air distribution that the oil-air mixture is sprayed into the combustion chamber in a perfect cone—*preventing sooty, uneven firing and a noisy flame.* "Econo-flame" performance is really smooth!

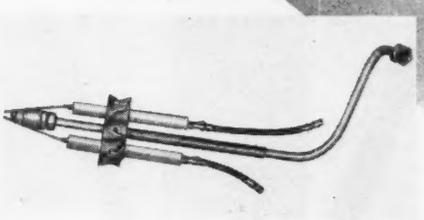
The "Econo-flame" Burner is a typical example of Winkler precision workmanship and the attention paid to installation problems. Blast tubes are available in various lengths so that each installation can be custom-fitted for top performance. All standard parts are nationally known and accepted units.

You'll want the complete "Econo-flame" story—write today for detailed information.



Quick fuel line removal

A visual check of the electrodes can be made through this glass port. The complete fuel line and nozzle assembly can also be removed through the port in a few seconds.



Leak-proof, one-piece fuel line

The design of the "Econo-flame" fuel line and silver-brazed Nozzle Adapter eliminates oil leakage and air entrappage. It assures cleancut starts and stops of the burner, with no residual drops of oil to cause smoky operation.

Flange or base mounting

Flange permits installation in boilers and furnaces requiring flange-mounted burners. The "Econo-flame" can thus be quickly installed in any type of new or old boiler.

WINKLER

Econo-Flame

OIL BURNER

By the Makers of the famous Winkler "no shear pin" Stoker

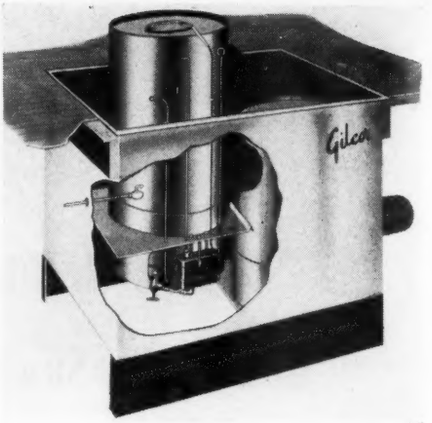
U. S. MACHINE CORPORATION, Dept. AH-1, Lebanon, Ind.

fuel oil & oil heat

effect a permanent repair. Liquid boiler stop leak also is available, as is a boiler cleaner compound to remove rust and scale to eliminate priming, foaming and slow steaming. Pipe joint compound and drain pipe solvent completes the line.

Gilcor Floor Furnace Permits Easy Burner, Control Servicing

A DESIGN that permits easy moving of burner and control assembly to floor for servicing features the oilfired floor furnace announced by Gilcor Products Corp., Dowagiac, Mich. By removing the asbestos lined retaining band between burner assembly and radiator and breaking fuel line at shut-off, the combustion chamber, burner and controls can be removed for floor level servicing without disturbing the rest of the furnace. Another feature of the unit is the skirt attached to the casing base which encloses burners and controls and which can be used as a display rack. Drums, base and double inner-liners are made of corrosion-resistant and heat-reflectant aluminized steel and the casing is bonderized before enameling. The vaporizing burner



has been designed to perform under poor draft conditions. A manual operation control rod makes possible settings from floor level, while temperature limit control thermo bulb automatically changes burner to low fire if grill temperature becomes excessive. Maximum heat output is 50,000 Btu/hr.

Water Master Circulating Pump Announced by Victor Electric

WATER MASTER circulating pumps, manufactured by Victor Electric Products, Inc., Cincinnati 9, Ohio, are being distributed by Beach & Brandenburg, Inc., Baltimore 15, Md., who are functioning as exclusive sales agents. The circulators are offered in one size, 1" to 1¼", at present, which is estimated to accommodate up to 900 sq. ft. of radiation and is equipped with a 1.7 amps., 110 volt, 60 cycle A.C. motor. About the first of the year a second size, 1½" to 2", is expected to be released.

The motor, mounted vertically, is equipped with a built-in temperature limiting control, automatic resetting, and is connected to the pump by a specially designed silent coupling, using beryllium copper spring. The pump has an all brass body, stainless steel water seal and a carbon graphite oilless type bearing.

Solderless Type Ignition Terminal Announced by Aircraft-Marine

TWO INSULATION piercing contacts of special design that enter the cable parallel to the wire strands provide electrical contact in a solderless type of high voltage igniter lead for domestic oilburners, announced by Aircraft-Marine Products Inc., Harrisburg, Pa. The contacts achieve a large area of contact without shearing the wire strands and are attached to the

TAKE A MONARCH "TIP"-- AND COMPARE RESULTS!

Most any nozzle will produce some kind of a fire, but —until you have tried Monarch Stainless Steel Nozzles (of a type with spray characteristics matched to your air mixing equipment) you won't know how good they really should be. State make of burner and sketch or accurately describe air mixing head and make test *yourself* with the series Monarch Nozzles we recommend.

Pulsation: We can usually suggest a remedy. Give full details of burner and the job.

Air Cones & Stabilizers

Monarch combinations have been used as original equipment by burner manufacturers for many years and dealers have used thousands of them to make old burners more efficient. Eliminate guesswork—Use this tried and tested equipment and be sure of *results*.
Now available for 3½", 3⅞", 4", 4¼", 4½", 4¾", 6" and 8" I.D. air tubes.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.

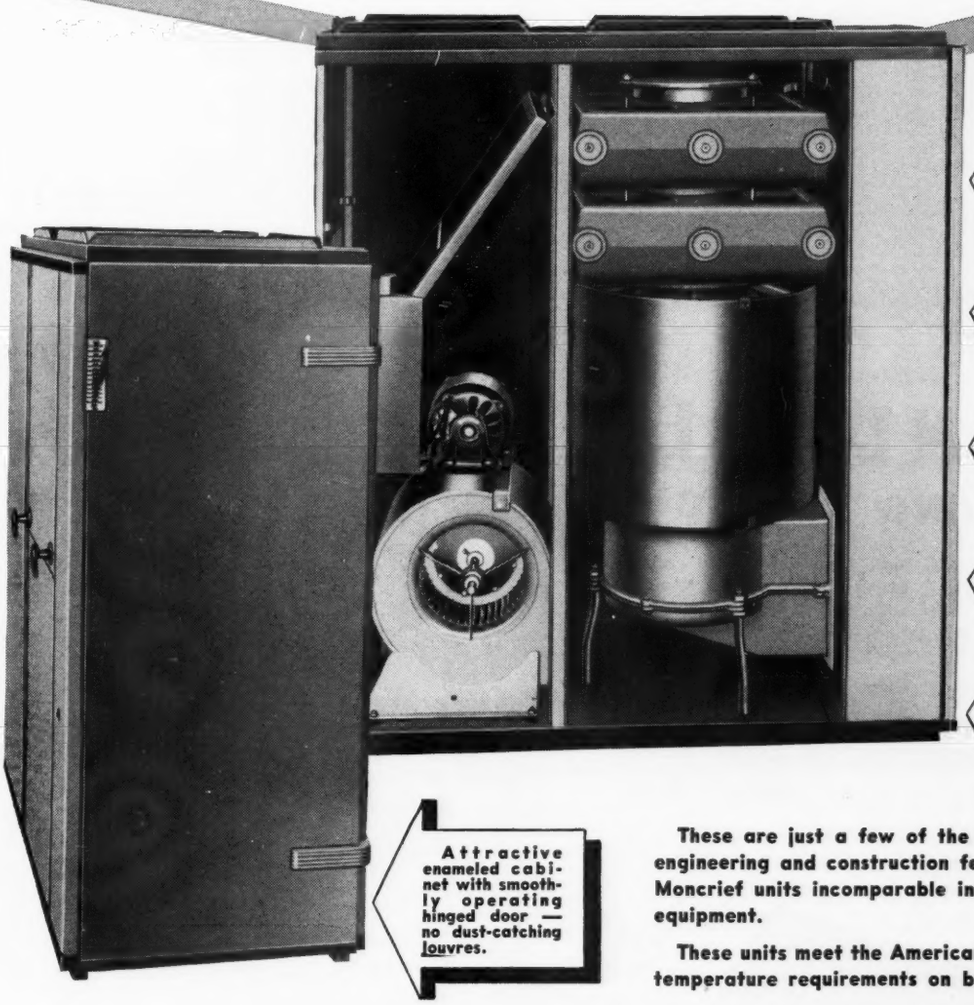
Write for Catalog D

MONARCH MFG. WORKS, INC.
2503 E. ONTARIO ST.
PHILADELPHIA 34 PENNA.
European Distributor: A. Coutau, Ruedela Scie No. 16, Geneva, Switzerland

As Outstanding as a Plug Hat at a dog fight

MONCRIEF'S *NEW*

CAST IRON • GAS FIRED AIR CONDITIONING UNITS



HERE'S WHY

Radiators are cast in one piece — with easy-to-remove clean-out ports.

Round cast iron combustion chamber—rugged, simple, leak-proof.

Not one single vertical joint in the entire heating assembly.

"No hot spots" that promote cracking and short life.
"No cold spots" that might cause condensation.

Entire heating element can be removed for inspection or cleaning in 15 to 30 minutes.

Attractive enameled cabinet with smoothly operating hinged door — no dust-catching louvres.

These are just a few of the outstanding, "Years Ahead" engineering and construction features that make these new Moncrief units incomparable in cast iron, gas-fired heating equipment.

These units meet the American Gas Association's stringent temperature requirements on both high and low limits.

THE HENRY FURNACE COMPANY
Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

fueloil / oil heat

cable by a spiral crimp, which forces the contact points into the cable with a curling action from opposite sides.

Installation is accomplished in a matter of seconds with a hand tool or power press die.

Federal Boiler Introduces Line of Six Boiler Sizes

SIX STANDARD STOCK SIZES in a line of boilers announced by Federal Boiler Co., Inc., Midland Park, N. J., are designed with a special vertical percolator tube, which distributes hot water up between the boiler tubes and instantaneous coil. The units will permit oilfiring and feature greater prime heating surface and ample space for refractory combustion chamber. Six models of Federal FC 1300 boilers range in capacity from 400 sq. ft. to 1300 sq. ft. steam; from 640 sq. ft. to 2080 sq. ft. hot water, installed radiation.

Twelve gauge boiler tubes are expanded and flared into position and are tested at 150 lbs. hydrostatic pressure psi. Boiler heads are 5/16" and wrapper sheets ¼". A hammertone, insulated steel jacket can be installed easily after heating and burner piping has been completed. A large capacity instantaneous hot water coil is included.

DEPENDABLE

YEAR-IN AND YEAR-OUT

Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.

Write for Bulletin.

DONGAN ELECTRIC MFG. CO.

2981 Franklin Detroit 7, Mich.

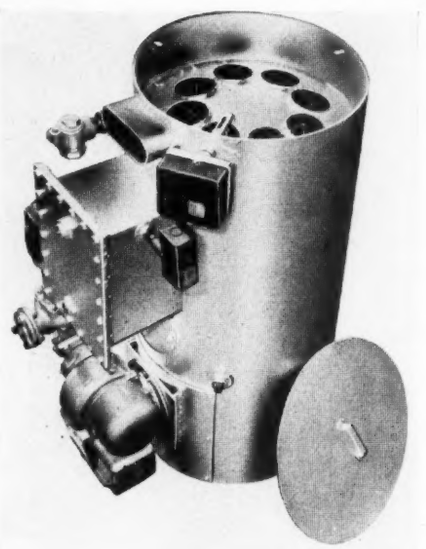
The Dongan Line Since Nineteen-Nine

WRITE FOR LITERATURE

DONGAN TRANSFORMERS

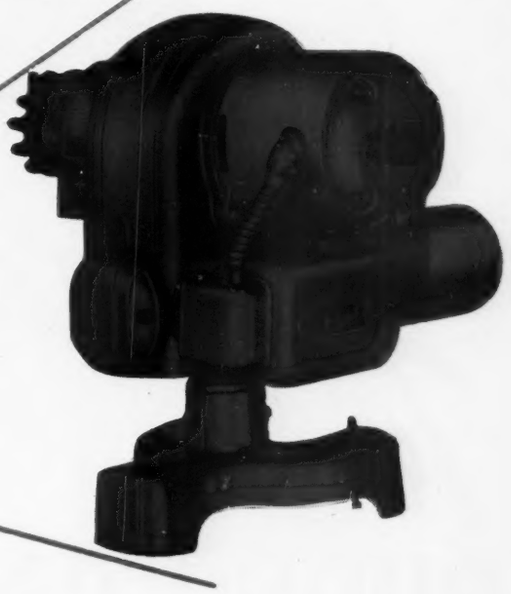
Acme Dual "Eight" Boiler For Oilfired Domestic Heating

AN OILFIRED boiler, announced by Acme Tank & Welding Div., United Tool & Die Co., Elmwood, Conn., has a rated capacity of 720 sq. ft. of hot water, 450 sq. ft. steam. Stainless steel heat intensifying tubes located within eight boiler flues are designed to maintain at a high temperature the gases passing along the outer flue walls. Gases passing through the intensifying tubes are released at the upper area of the boiler and distributed equally by means of the top baffle, resulting in high temperatures in both upper and lower areas.



A tankless heater, furnished as standard equipment, delivers 3½ gals. of domestic hot water per minute. The all-welded boiler of high grade boiler steel can accommodate either rotary or gun type oilburners. Flues, 4" in diameter, can be cleaned readily by removing the top boiler cover of the unit which is shipped knocked-down.

SOUNDS GOOD TO ME!



The Echo of Satisfaction Lingers Long After Each REXOIL Leaves Our Plant

ALL WAYS YOU'RE RIGHT WITH Rexoil

Why? Because 25 years of continuous and exclusive manufacture of oil burners has resulted in much more than good equipment. It has developed an intimate "know how" of what it takes in *product price* and *promotion* to keep customers sold and distributors successfully in business.

There are still some desirable Rexoil territories open for enterprising distributors.

REIF-REXOIL, Inc., 37-43 Carroll Street
Buffalo 3, N. Y.

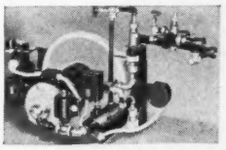
Pioneers in the Oil Burner Manufacturing Business

Model A-3
Capacity .7
to 3 G.P.H.

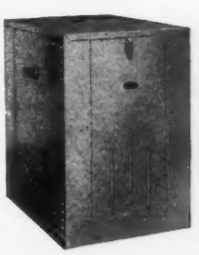
Model A-8
Capacity 2.5
to 8 G.P.H.

Model A-18
Capacity 6
to 18 G.P.H.

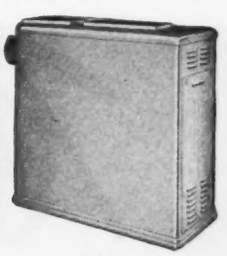
Model H-1-S
Capacity 12
to 30 G.P.H.



Horizontal
Rotary
Sizes 50 to 500
Horsepower



Boiler
Burner Unit

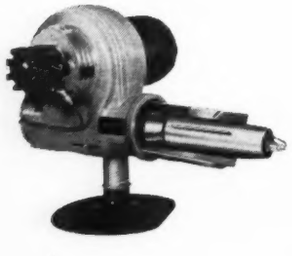


Winter
Conditioning Unit

AMAZING

Turbulator head

BURNS "CAT" OIL WITH 10-14%+ CO_2



The Richfield patented Turbulator Head makes possible an operational efficiency of 80 to 88%, even when burning the new catalytic oil! Plus: Instant fingertip control of flame shape • No soot • Possible savings of 20% or more on fuel • Low stack temperature • *Single model* for ¾ to 6 G.P.H. ranges • Write today for full details • Franchises available for dealers • Also openings for full-time representatives.

Richfield FLAME CONTROL

OIL BURNERS

315 Fifth Avenue • New York City 16 • MUrray Hill 3-3050

Tom Lewis Honored At Testimonial Birthday Dinner

THOMAS H. LEWIS, chairman of the board, Elliott-Lewis Co., Inc., Philadelphia, Pa., was honored at a dinner and reception held October 7, which marked his birthday and the date on which the company moved into its present headquarters fifteen years ago. Several hundred employees and suppliers attended the "Tom Lewis Day" festivities, including J. W. Rowland, president; Victor Lazo, J. C. Campbell and Joseph Call, vice presidents, Elliott-Lewis Co., W. C. Coleman, president, Coleman Co.; Frank Russell, president, F. C. Russell Co., Charles Smith, manager Delco Appliance Div.

The firm was established in 1905 as the Elliott-Lewis Htg. Div., Elliott Electrical Co. At the time only four people were assigned to distribution of Delco oilburners. When it moved to its present location, the Division became a separate company and today employs more than three hundred people. In addition to Delco-Heat equipment, the firm handles Coleman furnaces, space and water heaters, Elco mineral wool insulation, York air conditioning and commercial refrigeration, and is regarded as one of the country's largest distributors of this type of equipment.

Cities Service Organizes Research and Development Unit

FORMATION of Cities Service Research & Development Corp. has been announced as the first major step in centralization and expansion of research and development activities of Cities Service Co., New York, N. Y. A. P. Frame will be president of the new corporation and will continue in his present position as vice-president, Petroleum Advisers, Inc., in charge of all Cities Service manufacturing operations. W. Alton Jones, president of the parent concern, is chairman of the board; C. L. Mateer, vice president.

Among major development projects contemplated is research, in cooperation with M. W. Kellogg Co., in the synthesis of liquid petroleum products from natural gas at the Jersey City plant of Kellogg and Cities Service refinery at Lake Charles, La., and work on development of automotive and household fuels at Lake Charles and East Chicago, Ind.

Construction of a modern research laboratory in the New York area, as headquarters is under consideration.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Groups' activities to reach the editor by the 20th.

New England OHI Pushes Campaign; Protests Rules

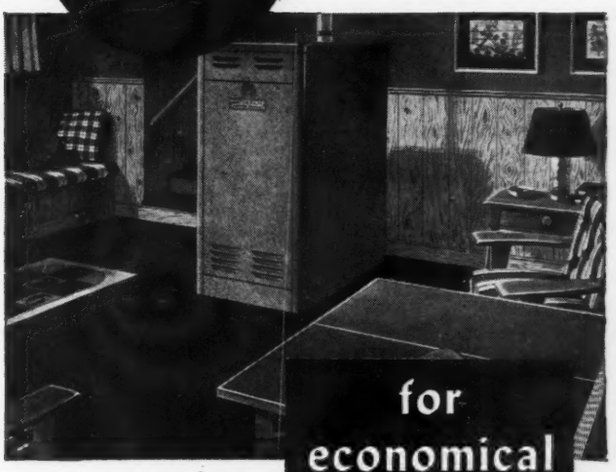
TO IMPLEMENT its program for public acceptance, as adopted last month by Oil Heat Institute of New England, Boston 15, Mass., a schedule of newspaper advertisements has been drawn up to provide for fifty-seven insertions in sixteen cities in the New England area. The first insertion will be run on October 5 in Portland, Me., Boston and Worcester, Mass. and the campaign will be concluded with an insertion to appear October 28 in Providence, R. I. Six insertions each are planned for Portland, Boston and Worcester, while the other cities will be covered by three advertisements to be inserted at weekly intervals. The campaign, designed to acquaint the public with accredited members of the Institute who have prescribed in writing to Standards of Technical Efficiency and the Code of Fair Business Practices, will feature an identifying symbol which will be displayed only by accredited members. Copies of a booklet, "By This Symbol," have been prepared for distribution in connection with the campaign.

On October 6, the Institute, jointly with other New England oil and burner groups, attended a meeting at the State Fire Marshal's office, where petitions were accepted for changes in newly formulated rules and regulations on keeping, storage and use of fueloil. Recommendations were submitted for changes in all or part of eleven of the rules, the temporary suspension of one rule which provides for 12 gauge steel plate in storage tanks and the addition of a rule to require an automatic draft regulator, or its equivalent, on oilburning units using light oil.

Secy. of Interior A Speaker At API Annual Meeting Session

NATIONALLY-KNOWN speakers discussed domestic and world-wide problems at the 27th annual meeting of the American Petroleum Institute in Chicago, November 10-13. General sessions held on the

Koven waterfilm boilers

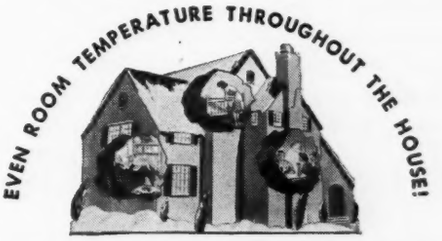


for economical quick heat

FOR an effective heating system that meets the requirements of small homes, apartment houses or industrial plants, recommend KOVEN WATERFILM BOILERS...economical, efficient heating units whose patented construction incorporates all the latest scientific improvements that cannot be duplicated by any other boiler.

Fastest-steaming WATERFILM Boilers save fuel, insure even temperatures in every room, and provide an abundant supply of domestic hot water at all times. And home-owners will be particularly enthusiastic about the modern, trimly styled jackets that make these boilers attractive in any basement setting.

Made for automatic firing with oil, stoker or gas. Write for a free booklet.



WATERFILM BOILERS, Inc.
A DIVISION OF L. O. KOVEN & BRO., INC.
154 Ogden Avenue, Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.
Listen to the WATERFILM Broadcast "Vaudeville Isn't Dead" Mon., Wed., Fri. at 7:45 P.M. and Sun. at 12:15 P.M. Station WNEW

last two days of the meeting featured an address by Honorable J. A. Krug, Secretary of the Interior, and other speakers whose topics dealt with questions of public relations, conservation measures, the international petroleum situation, industry problems, and the outlook for general business.

Other business conducted at the sessions saw the election of a new board of directors and presentation of the Institute's Gold Medal for Distinguished Achievement.

A session of particular interest to the oilheating industry was conducted by the Marketing Division, API, highlighted by papers delivered by John Boatright, head economist, Standard Oil Co. of Indiana and Walter Holmgren, W. H. Barber Co., Minneapolis, both of whom dealt with aspects of fueloil supply. Mr. Holmgren discussed the situation generally, with particular emphasis on how the industry can present its transportation and storage problems to the public to minimize the ill-feeling which might result from tight supply conditions in certain areas.

New, Longer-Wearing BROWN COVER!

"NEWTYPE CORD"

Synplastic FUEL OIL HOSE

Kinkproof, Non-Flattening Construction . . . Always Round, On or Off the Reel.

EVEN BETTER THAN PRE-WAR

In Toughness and Flexibility!

Yes . . . a better-than-ever "Newtype" . . . with a new brown cover that provides greater resistance to abrasive wear and longer life for the entire hose. Special tube protects carcass from penetration of oil. More flexible, too . . . easier than ever to handle. Order a length today, and prove to yourself that "Newtype" is the *number one* hose for fast, low-cost fuel oil deliveries.

Contact Our Nearest Branch for Prices.

GOODALL RUBBER CO., INC.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

NCIPA Proposes Analysis Of Jobber-Distributor Operations

A FACTUAL analysis of jobber-distributor operations, proposed by National Council of Independent Petroleum Associations, New York 17, N. Y., would be undertaken with two purposes in view. It would be designed to render an objective service to the petroleum marketer who is so inclined to benefit himself by such a service and it would seek to develop a research study to produce an adequate accounting procedure for the jobber-distributor so he may become cost-conscious and a more efficient operator.

If undertaken, the study would attempt to establish facts necessary for the intelligent handling of industry problems and to enable all segments of the industry to determine which problems can be solved best at the jobber-distributor level, and which rightly are the concern of other elements of industry. Also, furnishing data with which the jobber-distributor could establish low cost marketing methods, should, it is felt, enhance his usefulness to the suppliers and induce suppliers to replace direct operation with rejuvenated and efficient jobber business.

NYOHA Honors Past Presidents At Testimonial Dinner Event

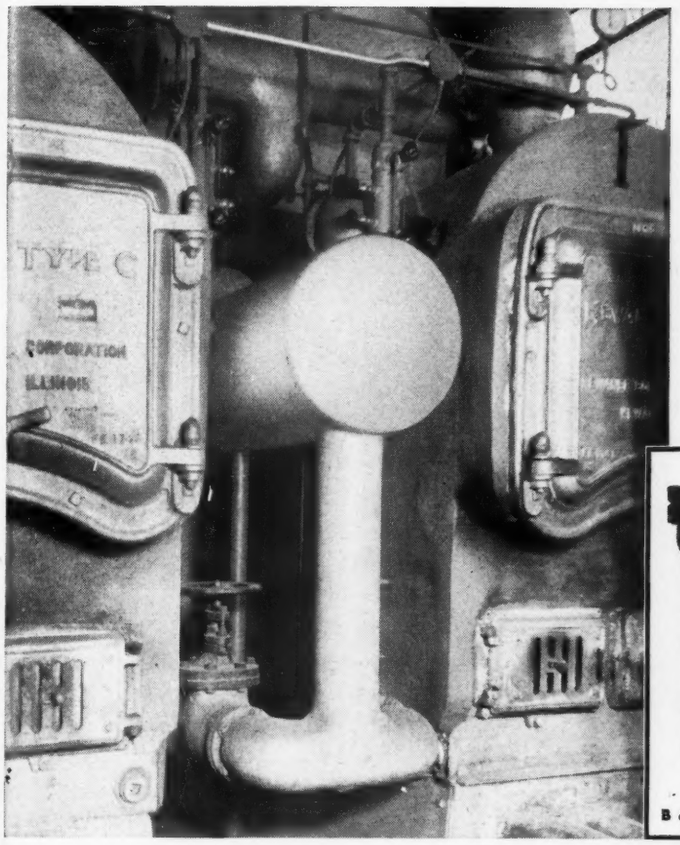
SEVEN PAST PRESIDENTS of New York Oil Heating Association, Inc., Long Island City 1, N. Y., were honored at a testimonial dinner and smoker held November 6 at the Park Central Hotel. Each of the presidents, who had not received the award previously, was presented with replicas of the gong used at Association meetings, engraved with the year of his term. The dinner afforded the first opportunity to make the awards since the presentations were suspended during the war years. In addition, outgoing-President Joseph Reiss received a gift from the membership.

About two hundred members and guests attended the dinner, which featured entertainment after the awards were made.

I-B-R Short Course Attracts Large Attendance

THE FIRST Short Course on Hot Water and Steam Heating Systems, sponsored by the University of Illinois and the Institute of Boiler and Radiator Manufac-

MORE HOT WATER FOR LESS MONEY!

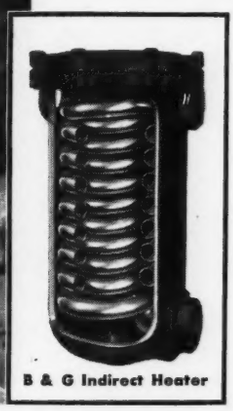


The cost of heating water is becoming a more important consideration every day. In residential buildings, for example, the growing use of automatic clothes washers, dish washers and showers calls for large volumes of hot water—*which must be produced at a reasonable cost.* In industrial plants, whether hot water is used for process work, washrooms or both, the cost of producing it is reflected in operating expenses.

B & G Water Heaters offer you an exceptional opportunity for quick sales and substantial profits. You can show plenty of evidence that water heating costs are amazingly reduced when a B & G Heater is on the job! And remember that this heater furnishes hot water *all year 'round.*

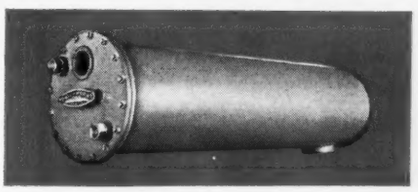
B & G sets the pace for completeness of line as well as efficiency. From this one source you can fill all your water heater requirements . . . external types for use with storage tanks . . . tankless heaters . . . and submerged heaters for installation with and without storage tanks.

Send today for complete information.

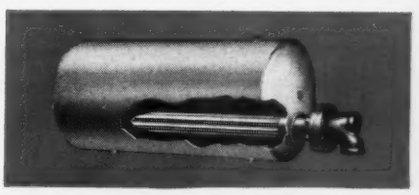


B & G Indirect Heater

Above photo shows an industrial application of a horizontal B & G Indirect Heater.



B & G Tankless Heater



B & G Tank and Heater

There is no greater modern convenience than an ever ready supply of hot water . . . and B & G Heaters supply it the low cost way.

WATER HEATERS
FOR
HOME AND INDUSTRY

Hydro-Flo* **WATER HEATERS**

BELL & GOSSETT CO., Dept. AC-7, Morton Grove, Ill.

*Reg. U. S. Pat. Off.

Fueloil & oil heat

turers, was held at Navy Pier, Chicago, September 9 through 11. Two hundred and thirty-nine students from 14 states and Canada attended the sessions and reacted so enthusiastically to the course that many suggested that it be repeated and some suggested it be held twice a year.

R. E. Ferry, general manager, I-B-R, explained that the primary object of the course was to present detail instruction in the proper use and value of the Institute's Installation Guides as opposed to rule-of-thumb or old-fashioned methods of designing and estimating systems. Students heard lectures which informed them of the I-B-R Research Program at the University of Illinois, since much of the material in the four Installation Guides is based on the Program.

The real work of the Course was accomplished when the students, after being lectured by six instructors drawn from industry and the University, worked out problems involving estimating and designing actual systems.

A dinner meeting held in the Sheraton Hotel was attended by students and instructors. The final event of the course witnessed the awarding of certificates of completion to each student.

Carroll M. Baumgardner, executive vice president, United States Radiator Corp., Detroit, and chairman, Institute of Boiler and Radiator Manufacturers, told the 32d annual meeting of the Institute at White Plains, N. Y. on October 21 that the course was so successful it had been decided to hold similar classes all over the country. I-B-R plans, he continued, to launch this year an intensive educational campaign for wholesalers and installers of steam and hot water heating systems.

NOW! PEMCO'S IMPROVED
TANK GAUGE POLES
AT A NEW LOW PRICE!
SOLD ON A MONEY-BACK GUARANTEE
ADVERTISING VALUE! COMPANY NAMES AND ADDRESSES IMPRINTED AT NO EXTRA COST
EASY TO READ! 1" AND 1/4" GRADUATIONS IN BRIGHT RED ON LUMINOUS YELLOW FACE
FREE OF KNOTS! MADE OF CLEAR, CLEAN, SEASONED WOOD 7-FOOT BY 7/8" BY 3/4"
FIGURES WON'T RUB OFF! PRINTED SIDE IS COATED WITH CLEAR SHELLAC
LIQUID LEVEL IS EASILY VISIBLE ON DULL BLACK SIDE
JOHN DOE
NEW HAVEN, CONN.
Easier To Read In Dark Situations
Prompt Deliveries
We Manufacture Custom-Made Poles with Special Calibrations. Prices Quoted on Request.
IF YOUR PEMCO JOBBER
Cannot Supply You Write to Us
PETROLEUM EQUIPMENT MFG. CO.
75 BREWSTER ST. NEW HAVEN, CONN.

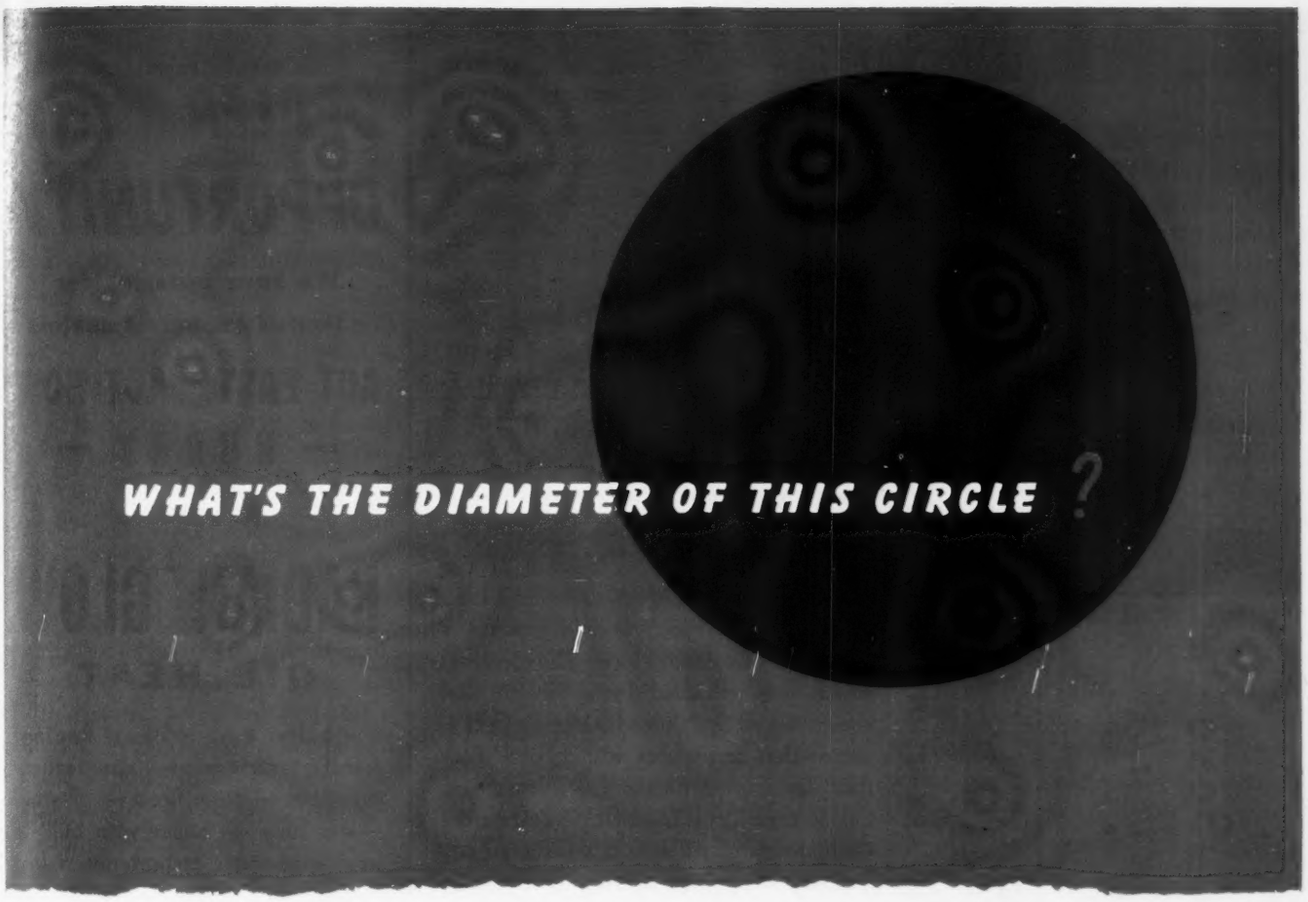
Gasoline Ration Favored To Spur Production of Fueloil

FOLLOWING a meeting of its Fuel Oil Supply Committee on October 21, Clyde G. Morrill, secretary, Atlantic Coast Conference, Boston, Mass., issued a statement that it will favor gasoline rationing unless light heating oil prices are advanced sufficiently to spur production enough to meet requirements this winter. The Conference, representing fueloil dealers along the Eastern Seaboard, is prepared to petition Congress for motor fuel rationing if the anticipated new price schedules of Atlantic Coast suppliers do not change the price differential between gasoline and heating oil in favor of distillates.

"Pleasure driving must be sacrificed if need be to keep homes warm," said the statement, which revealed also that distillate production is below the percentage figure that will permit satisfying distillate demand, due, largely, to present economics of the price structure.

First Two Fall Meetings Held By Massachusetts Group

THE FIRST and second meetings of the current season have been held by Massachusetts Oil Heating Association, Boston, Mass., with a large group in attendance at each. The opening meeting, held September 29, was featured by a talk delivered by Clyde G. Morrill, executive director, Independent Oil Men's Association of New England and executive secretary, Atlantic Coast Oil Conference, who discussed fuel oil and the current supply situation in the Boston marketing



You don't know until you measure it

You may guess the diameter is 3". Someone else, 3⅛". The way to be sure is measure it. And in measuring the gallonage you handle, too, there's one way to be sure—meter it . . . with a Neptune Red Seal Meter.

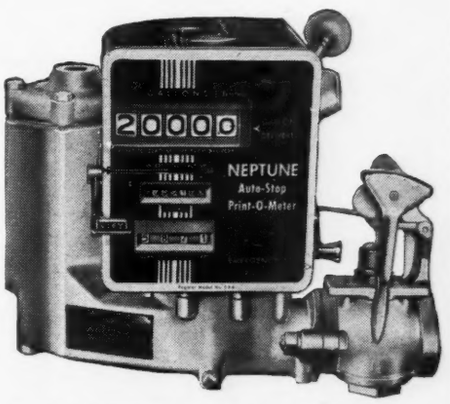
Then *every* drop is accounted for . . . every day of the year . . . for years.

And your auditing department and the tax collector will accept the figures.

For Neptune Red Seal Meters are precision engineered, each being composed of several, easily accessible units. Such simplicity means any necessary servicing can be done with ease and speed. And speaking of servicing did you know about—

NEPTUNE'S EXCLUSIVE MONEY-SAVING UNIT REPLACEMENT PLAN

Like any mechanical device, Neptune Meters need occasional attention. So to make your investment completely satisfactory, we have a plan that permits you to exchange work-worn units for factory rebuilt replacements, at low cost. Adequate stocks of these parts are kept on hand at our strategically located branches and petroleum equipment jobbers' warehouses. No more expensive rebuilding or repairing in the field. Your equipment is kept in constant service. You save money, time, temper.



THERE'S A NEPTUNE METER to fit every one of your bulk plant and tank truck requirements. Special type of construction saves valuable pay-load space and weight. Optional are: Auto-Stop, which permits automatic delivery of preset gallonage and Print-O-Meter that provides fool-proof printed ticket showing exact quantity delivered.

FOR ACCURATE MEASURING OF YOUR GALLONAGE . .

NEPTUNE RED SEAL METERS

NEPTUNE METER COMPANY, 50 West 50th Street, New York 20, N. Y. Branch Offices in: Atlanta • Boston • Chicago • Dallas • Denver • Kansas City, Mo. • Los Angeles • Louisville • Philadelphia • Portland, Ore. • San Francisco • NEPTUNE METERS, LTD., Long Branch, Ont., Canada

fueloil & oil heat

?
WATCH THIS SPACE

William J. Oebler and Sons
Automatic Heat Devices
PHILADELPHIA, NEWARK, BOSTON

EASTERN FACTORY REPRESENTATIVES

Main Office
790 BROAD STREET, NEWARK 2, N. J.

EOCO
JOBBER REPRESENTATIVES
STAINLESS STEEL NOZZLES
SERVICEMAN'S NOZZLE KITS
PRESSURE REGULATING VALVES
BRASS NOZZLE ADAPTERS
WIRE MESH STRAINERS
AIR CONES and STABILIZERS

area and on the east Coast as a whole. Fred Beckwith, honorary secretary-treasurer, reported at both meetings and outlined briefly the points discussed at a public hearing at Fire Marshal's headquarters regarding new rules and regulations on oilburner installation.

The second meeting, held October 20, scheduled an address by Lionel L. Jacobs, president, Automatic Heat, Inc., Philadelphia, whose topic was "How Proper Accounting Helps in Our Industry," with particular emphasis on credit and collection problems.

Opening Meeting of Season Held By Wisconsin Association

THE FIRST regular Fall meeting of the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., was held September 25 at the Wisconsin Hotel. The meeting, which was preceded by a dinner, discussed the advisability of adopting O.H.I. installation certificates and debated further distribution of the Oil Burner and Oil Storage Tank Installation Standards. Preliminary plans were heard for an advertising campaign, with a membership drive advocated to increase the group's scope and effectiveness.

Washington Oil Heating Div. Completing Plans for School

OIL HEATING DIV., Merchants & Manufacturers Association, Inc., Washington, D. C., recently revealed that the long contemplated plans for establishment of a continuous oilburner installation and service school of instruction are nearing completion. In cooperation with the Public School System, which has defrayed expenses in providing basic facilities, tools and some equipment, ample space for the school has been allotted in the Chamberlin Vocational School.

The Association now is engaged in securing a competent instructor for the courses and has solicited members to indicate what equipment they will provide on a loan basis to be used by the students in working out practical problems.

Announce Program For Annual Warm Air Convention

A COMMITTEE, headed by Gene Brown, has completed arrangements for the program at the 34th Annual Convention of the National Warm Air Heating and Air Conditioning Association, Cleveland 14,

(Continued on page 128)

DEALER OPPORTUNITY

We have openings for a limited number of dealers

ACT FAST— ACT NOW
— HURRY —

SEE WHY

RADIANT GLOW
OIL HEAT

is a better buy. With its Radiant transfer surface — counterflow principle — down fired — all steel —wet base — boiler with built-in heat exchanger instantaneous hot water coil — expansion tank built in — burner completely enclosed with extended jacket — low compact modern design — low operating cost.

NO TUBES — NO FLUES
JUST RADIANT HEAT

Can any other boiler burner unit offer all the advantages incorporated in Radiant Glow?

Invite our representative to call. Let him tell you of the advantages Radiant Glow oil heat and an exclusive franchise has to offer.

Write — Phone — Wire — Call

Lehigh Valley Service Co.
Attention Mr. Lindenmuth
29 So. 6th St., ALLENTOWN 9780

Red Hot Warm Air Furnace

"My FUELOIL BUSINESS can't be built on poor oilburner performance," said a worried oil company owner to his chief service man, who had been called in for a conference.

"This customer, from a family that buys lots of oil from us, raised the devil with me just now. His burner is three years old, but it's never been right. He says the poor burner service we provide is mainly to blame.

"Here's the point. Whatever is wrong with the job must be made right this week. I've given my word on that. Now you go out and put that job in A-1 condition!"

A good look at the installation made the trouble-shooter sorry that someone had done a cheap job of oil-firing the exceptionally small gravity-circulation warm air furnace. The furnace had grate lugs which practically prevented building a good firebox. A halfhearted attempt had been made to build an 11" diameter firebox. As Diag. 1 shows, the grate lugs were sticking out into the flame; the brick had been placed in any positions the lugs permitted.

Two things caused the furnace base to become almost red-hot when the burner ran for 15 minutes. First, heat leaked through the firebox side walls because they were poorly built of heavy brick to start out, and because in three years they had deteriorated greatly.

Second, the firing rate was excessive for the size of the furnace. The owner said a 1.50 gph nozzle was being used because lower-capacity nozzles had plugged.

fueloil & oil heat Short Short Article on Burner Service

The red-hot base caused reversed circulation through the return ducts, and this prevented proper air-flow through the furnace jacket.

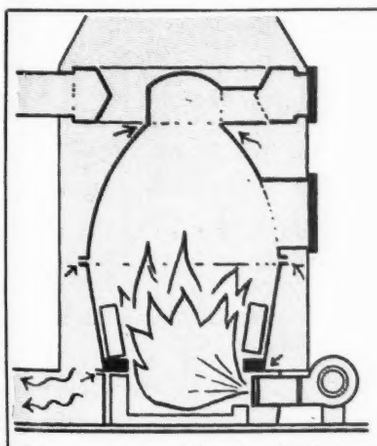
Because the firebox almost fell apart by itself, the service expert took only an hour to remove the burner from the furnace and clear out the furnace base. This gave him a good look at the grate frame and grate lugs, shown in Diag. 2.

Thinking of the boss' order to make the job perfect, the man decided on drastic action. After removing the furnace jacket, he took the furnace base to a shop equipped for welding and machining, and gave an order to remove the grate supports and leave the inside of the base a perfect circle. The job was done easily; the bill came to only $12. Diag. 3 shows the cleared-out base and the way the service expert fitted it with a firebox made of specially-cut light-weight insulating firebrick. He used these brick to gain excellent combustion and to keep the base cool so that air would circulate properly through the furnace jacket. The inside diameter of the firebox was 11".

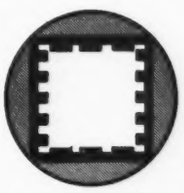
The service expert fitted a longer gun tube to the burner. To obtain a small fire, he used 70 lbs. pressure on a 1.25 gph nozzle. He reasoned that nozzle overheating probably caused nozzle plugging in the past. However, to make certain of steering clear of nozzle plugging for the future, he put a brand-new oil strainer in the fuel unit on the burner and installed an extremely effective oil filter in the oil feed line, at the 275-gallon tank. He cleaned the furnace thoroughly of soot and scale, applied furnace cement to all the furnace joints before he replaced the jacket, and wound up with careful tuning and complete combustion tests. His reward came in the 680° stack temperature (compared to an estimated stack temperature of 1100° before he started his work) to which was added later the report of "owner says that now he is more than completely satisfied."

As he understands oilburner work, the owner of the oil company was pleased that the whole job was done in three days' time. He understood also that the costs of the material used could not be lower. Besides the machine shop bill of $12, they included $7.00 for the firebox material, the cost of the new fuel unit strainer, the oil line filter, and the new nozzle.

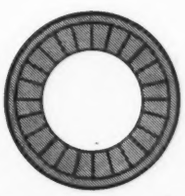
"I'll make out the bill carefully and talk to the customer before I give it to him," said the oil company owner. "He's got to consider that up to now he's had more than 20 service calls a year together with tremendous oil bills. From now on, his oil consumption will be cut in half!"



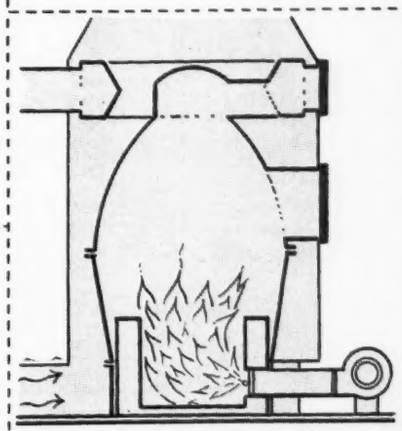
Diag. 1 - Troubles include grate lugs, hot base, and high gph.



Diag. 2 - Top view of grate support frame



Diag. 3 - Removing lugs and teeth improves base.



Diag. 4 - Lower gph, faster warm air circulation, and improved combustion; 680° stack temp.

F.W.S.

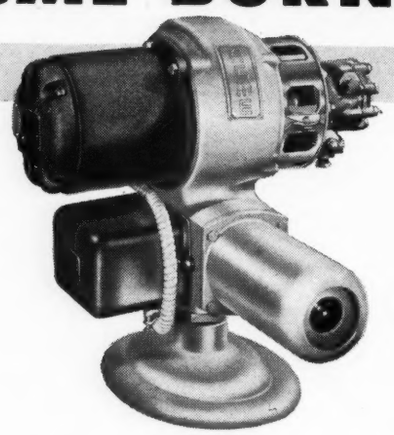
Ohio. The meeting will be held on two days, December 4 and 5 at the Hotel Cleveland, Cleveland and will consist of one afternoon and two morning sessions.

After registration on Thursday, December 4, the first session will convene at 9:45 to hear reports on the Association's research program, installation codes and an address by Prof. Lorin G. Miller, chairman, technical education committee. Prof. S. Konzo will speak on extended plenum duct systems and the final paper will explain measuring performance of a blower in a high-boy furnace. After luncheon, an afternoon session first will elect officers and members of the board of directors and then receive a report on panel heating in the new research residence; a report on the Indoor Comfort Conferences by G. A. Voorhess, application engineering director; a talk on sales and a discussion of the benefits of continuous air circulation.

The final morning session, December 5, will be devoted to a Fuel Forum, at which speakers from the oil, coal and gas industry will tell of conditions in their respective fields. Robert Gray, FUELOIL & OIL HEAT, will appear as fueloil representative.

The Association is completing preparation of a Manual on Radiant Panel Warm Air Ceiling Heating Systems and it is expected that copies will be available at the Convention sessions.

ACME DEALERS
praise the operation of the
ACME BURNER



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★ Have you investigated the Acme line? It includes a complete range of burners from ½ to 20 g.p.h.

Acme features the famous one piece Turbostat Head which gives high CO_2 with minimum of adjustment. Interesting territories are open. Our representative will be glad to talk over your requirements.

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318 TEN EYCK STREET
BROOKLYN 6, NEW YORK

I-B-R Boiler Ratings Booklet Lists Capacity, Chimney Sizes

A NEW EDITION of I-B-R Ratings for Cast Iron Boilers, prepared by Institute of Boiler and Radiator Manufacturers, New York 17, N. Y., includes ratings for boilers being offered by 18 manufacturers. Data shown include gross and net ratings, burner capacities and chimney sizes.

The I-B-R Testing and Rating Code for Low Pressure, Cast Iron Heating Boilers, which details procedure for tests to determine Btu output, prescribes methods for determining sq. ft. of installed radiation which a boiler will accommodate and specifies maximum height and minimum chimney area for each boiler size, was used as a basis for ratings.

The booklets may be purchased at 50¢ each from Institute headquarters.

Publish Industry Standards For Air Conditioning Application

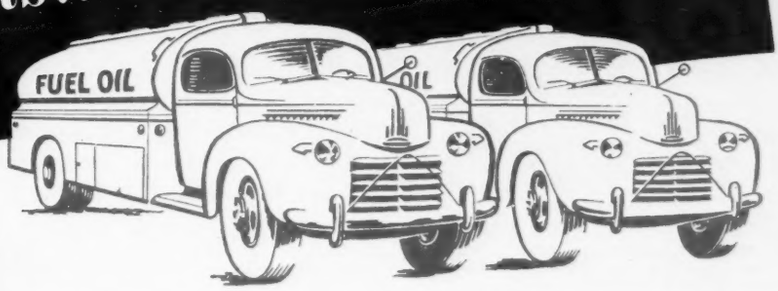
PUBLISHED RECENTLY by Air Conditioning & Refrigerating Machinery Association, Washington 5, D. C., Application Engineering Standards for Air Conditioning for Comfort, were prepared primarily as recommended practice for equipment manufacturers who are members of the Association. Incorporated into a 16-page booklet, the Standards include text and tables covering design load factors, outside and inside design conditions, sunlight radiation, ventilation and infiltration, design occupancy, heat gain, transmission coefficients, air distribution and capacity specifications.

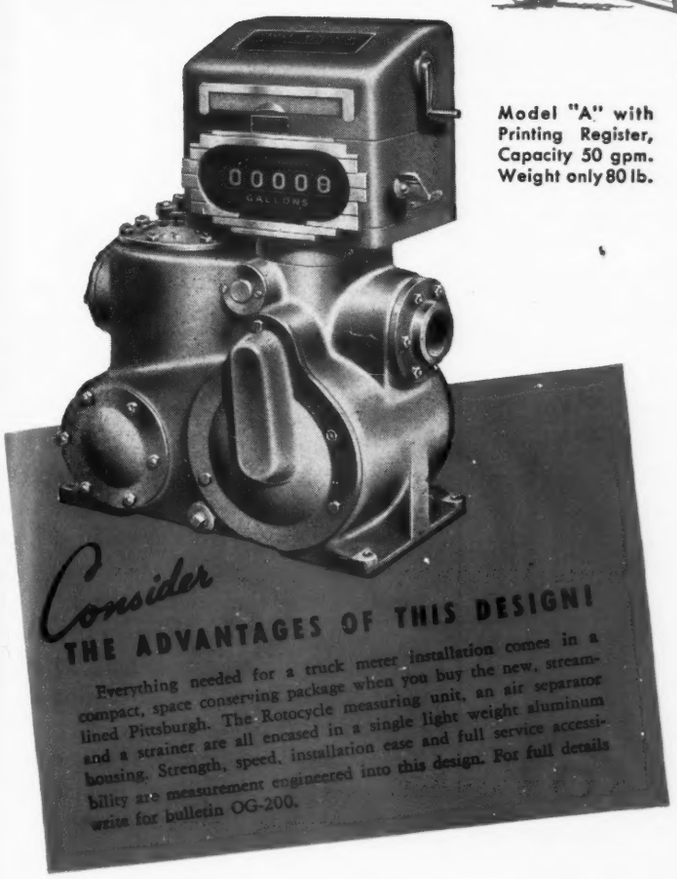
Copies of the Standards are available from headquarters at $1.00 each, with quantity discounts offered.

Plbg. and Htg. Bureau Holds Annual Meeting in Chicago

MEMBERS of the Plumbing and Heating Industries Bureau, Chicago 1, Ill., gathered at the Palmer House, Chicago, on November 3 for its annual meeting. Harry F. Beglen was chairman of the arrangements committee for the meeting.

PROFIT-EATERS... *without accurate meters*





Model "A" with Printing Register, Capacity 50 gpm. Weight only 80 lb.

Consider

THE ADVANTAGES OF THIS DESIGN!

Everything needed for a truck meter installation comes in a compact, space conserving package when you buy the new, streamlined Pittsburgh. The Rotocycle measuring unit, an air separator and a strainer are all encased in a single light weight aluminum housing. Strength, speed, installation ease and full service accessibility are measurement engineered into this design. For full details write for bulletin OG-200.

With the heating season here you're probably doing a nice volume of business. But how about the profit margin? Did you ever stop to think of the added revenue you could earn by curbing waste in distribution?

Well, here's a tip. Install Pittsburgh Rotocycle tank truck meters on your trucks. Then watch the figures soar. For these meters will make your employees account for every gallon handled. They'll stop shortages and overages; prevent disputes with customers.

Too, you'll find they speed up deliveries by eliminating time-consuming, back-breaking bucketing. And with ticket printing registers you can furnish certified delivery slips that verify the gallonage delivered even when drops are made in the customer's absence.

Now is the time to learn all about the profit building possibilities that accurate truck metering, the Pittsburgh way, provides. Complete information is yours on request. Write our nearest District Office.

PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING COMPANY
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Los Angeles · New York · Pittsburgh
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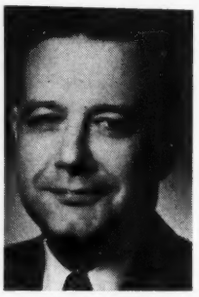
PITTSBURGH TANK TRUCK METER

ROCKWELL

REGISTERS AND ACCESSORIES TO SUIT EVERY REQUIREMENT

Small Register · Large Register · Printing Register · Faucet · Predetermining Valve

L. H. Matthes has been appointed manager of marketing, Air Conditioning Dept., General Electric Co., Bloomfield, N. J., and as such will supervise all advertising and sales promotion, marketing services, commercial engineering and sales for the department. Graduating from the G.E. test engineering course in 1922, Mr. Matthes spent two years as a design engineer and then became a sales engineer in the West Virginia office. Prior to his present appointment he was district manager in Texas.



Perry M. Gish has been promoted to the position of general traffic manager, American Radiator & Standard Sanitary Corp., Pittsburgh 22, Pa., succeeding Benjamin S. Thomas, who retired recently under the company's retirement plan. Mr. Gish has been with the company for twenty-eight years.

SPARK *invites dealer inquiries*

Model 4070
Burns Low Grade Fuel Oil
Approved by National Board of Fire Underwriters

While current production of SPARK oil burning heaters is allocated to our "old" dealers, *now* is the time for dealers in new territories to plan for future SPARK business.

SPARK is the Pacific Coast's pioneer oil burning heater. SPARK has the features that sell . . . pleasing appearance, visible flame, instant heat, efficient, low-cost operation.

Interested dealers may address replies to:

HAMMER-BRAY CO. LTD.
2619 E. 12th ST. OAKLAND 1, CALIF.

Oilheating Trends

(*Continued from page* 11)

is short right now but the future outlook is better." . . . "The supply picture looks fair—hope our storage will get us over the tight spots" . . . "Outlook is O.K." . . . "So far so good" . . . "Most suppliers optimistic if the winter is normal"; MID-ATLANTIC, "Outlook is dubious" . . . "May get through on light oil but very bad on heavy" . . . "No problem if winter normal" . . . "Growing worse daily" . . . "All independent suppliers indicate that they will have plenty of oil, but the majors do not appear as favorably situated" . . . "All fueloil is being strictly allocated and even old customers may not get all they want" . . . "They won't freeze but they will have to cut down on their consumption" . . . "Growing worse daily"; MID-WEST, "Our customers' tanks and our own are filled" . . . "The situation ahead is unpredictable" . . . "Outlook is bad—we have stopped selling new jobs" . . . "The terminals at the lake head are not yet full, but they expect to have adequate supply by close of navigation" . . . "Not too good but expect to get by" . . . "Outlook is rough, no transportation" . . . "Outlook improved over sixty days ago" . . . "Supply very tight and will continue through the winter."

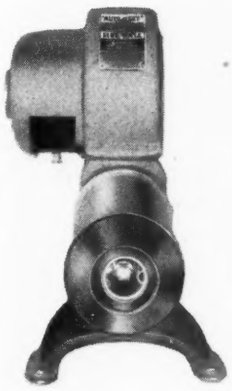
From the Pacific Coast nearly all reports indicate an easy supply. However one of the largest Oregon dealers is less optimistic, pointing out that many dealers this summer have installed burners far in excess of any probability of that particular company being able to supply them with fuel.

◈

E. A. Gumpert as assistant advertising manager, Rheem Mfg. Co., New York 22, N. Y., will be in charge of direct mail activities, advertising production and trade shows. He formerly was with Duane Jones Advertising Agency as account executive and engaged in research for Maxon Advertising Agency.

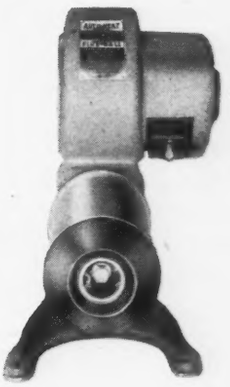
Charles Coote, field engineer for the past two years, Davisbilt Products Co., Cincinnati, Ohio, has been appointed research and sales engineer to head the company's newly organized research department. With a staff of automotive engineers, Mr. Coote plans considerable field work to solve the problems and needs of Davisbilt customers for truck tanks.

Clockwise or Counter-clockwise?



It makes no difference for high profits. Send in your old burners and we will put your transformer, motor and pump on the Auto-Heat Fire-ball Chassis using the

AUTO-HEAT COMBUSTION HEAD



Save your customers up to 20% in fuel bills. Keep your profits high!

Our housings are adaptable for either clockwise or counter-clockwise rotations. Flange or base mounted motors.

This is a very good deal for dealers who know oilheating regardless of what burner you are now selling.

WRITE, WIRE OR PHONE US ABOUT THIS SPECIAL SERVICE.

Valuable Franchises now available for the famous AUTO-HEAT!

LOOK for the sign of THE OIL-SAVER

Manufacturers of
THE FAMOUS

AUTO HEAT

- *FIRE-BALL Burner up to 2 gal. per hr.*
- *Standard Burner up to 30 gal. per hr.*
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FIRE-BALL

EQUIPPED WITH THE PATENTED COMBUSTION HEAD UNDER LICENSE FROM THE SHELL DEVELOPMENT CO.

Type [ ] Ser. [ ]

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Since the days when early ignition transformers were of the "insulated" or "grounded" design, Jefferson Electric has cooperated with the country's leading oil burner engineers.

The approval of automatic oil burner ignition by Underwriters' Laboratories, as applied to the average oil burner, was greatly aided by Jefferson's development of the mid-point grounded balanced design, radio interference barrier, and other advancements.

It is this cooperation and coordination of engineering and research facilities plus precise manufacture on a mass production basis which has placed Jefferson Ignition Transformers in the front rank by men who "know".

A MORE COMFORTABLE HOME . . . Because of Good Oil Burner Performance

Precision made and mass produced, Jefferson Electric Ignition Transformers are selected by the most experienced designers and manufacturers for the dependability so essential to maximum oil burner performance.

This dependability is safeguarded by Jefferson Electric through full control over the manufacture, assembly and inspection of all parts. In this way accuracy of every detail with skilled supervision from start to finish is maintained and long life, efficient operation assured. JEFFERSON ELECTRIC COMPANY, Bellwood (Chicago Suburb), Illinois. *In Canada:* Canadian Jefferson Electric Co. Ltd., 384 Pape Avenue, Toronto, Ontario.

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IGNITION TRANSFORMERS

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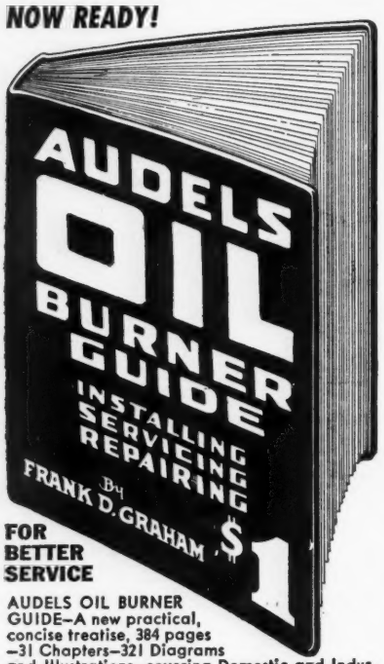

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AUDELS OIL BURNER GUIDE—A new practical, concise treatise, 384 pages —31 Chapters—321 Diagrams and Illustrations—covering Domestic and Industrial Oil Burners. New from Cover to Cover. Gives practical inside working knowledge of theory, construction, installation, operation, testing, servicing and repair of all types of oil burners. Includes electrical hook-ups and wiring diagrams of automatic control systems.

Step up your own skill with the facts and figures of your trade. Audels Mechanics Guides contain Practical Inside Trade Information in a handy form. Fully illustrated and Easy to Understand. Highly Endorsed. Check the book you want for 7 days Free Examination.

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furnace cement needed for many large cast-iron boilers. It does not matter who pays for that furnace cement, the fact remains that the cement must be applied if the CO_2 reading is to be maximum and the stack temperature is to be minimum. As an example of the importance of this: A recently assembled new cast-iron boiler, fired 8.0 gph, showed 11¼% CO_2 and 385° stack temperature on the first test. It was agreed on the installation, by several heating experts doing the testing, that the lowly 25 lbs. of furnace cement which had been applied in additional to the small amount shipped with the boiler, was responsible for the readings being far better than would have been obtained otherwise. In guessing beforehand that the stack temperature of the boiler would be just under 600°, one of the experts had not taken this extra furnace cement into consideration.

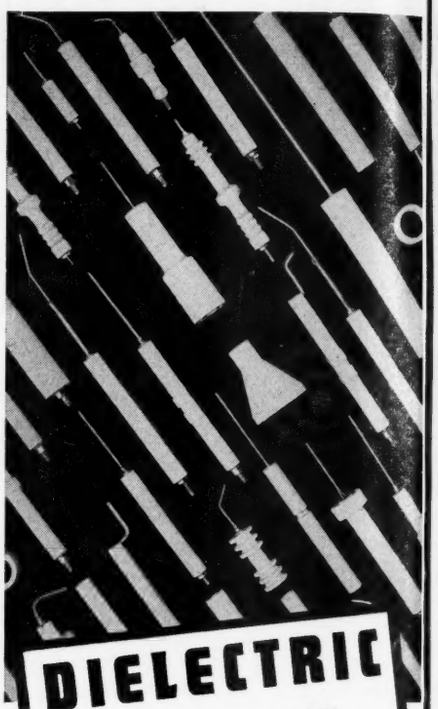
Exceptional combustion test readings on large installations are obtained from doing the exceptional kind of work described in this article. On the large installations, low fuel bills are extraordinarily important. To obtain the extraordinary results takes extraordinary effort on the part of the man who plans the installations and the men who carry out the detail work of installing and servicing the equipment.

* * *

Note: This is the sixth article in a series of articles on the proper installation of pressure burners. For additional instructions on building fireboxes, including a table of firebox dimensions for from 1.0 to 15 gph, see page 80 of the August 1947 issue of FUELOIL & OIL HEAT.

◈

Arnold Eckhart, Jr., has joined the sales department, Eckhart Mfg. Co., Roselle, N. J., and will work out of the home office contacting local dealers, distributors and customers of Silent Korth heating equipment. The entry of the junior Mr. Eckhart into the firm carries on a tradition, where, since its founding, members of the family have been active in every branch of the com-



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THE WIDEST SELECTION OF IGNITION ASSEMBLIES for Any Oil Burner

ELECTRODES • BUS BARS
INSULATORS • CABLES

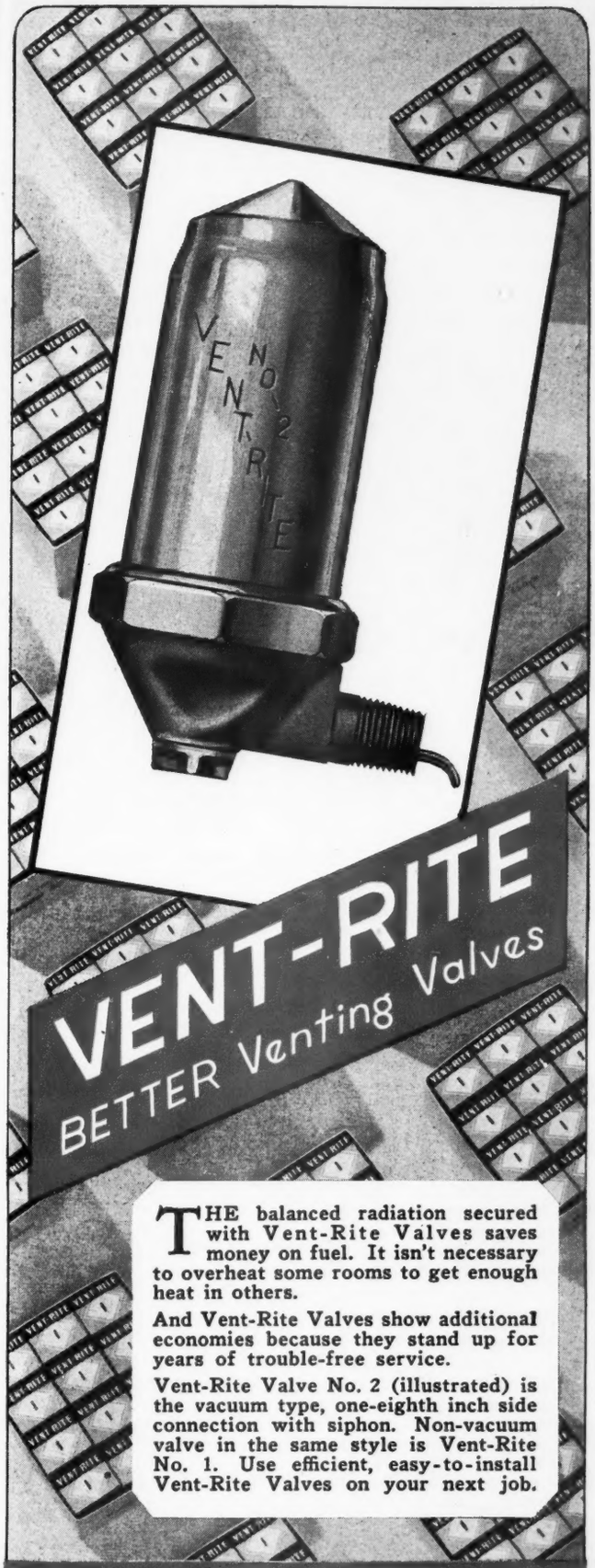
Incorporate Dielectric ignition assemblies into its design and you assure your oil burner of the best in electrodes, insulators, bus bars or cables. All parts or assemblies are guaranteed to meet Underwriters' Laboratories, Inc., requirements.

Standard electrode assemblies in a variety of insulator lengths are available for quick delivery. Special tip designs take only a little longer to produce.

Dielectric high tension cable assemblies and bus bars are also available for any transformers or electrodes on short notice.

Dielectric engineering service is fast, economical, cooperative. Write for catalog.

DIELECTRIC
PRODUCTS CO., Inc.
125 Virginia Ave., Jersey City 5, N. J.
Boston • Philadelphia • Des Moines



THE balanced radiation secured with Vent-Rite Valves saves money on fuel. It isn't necessary to overheat some rooms to get enough heat in others.

And Vent-Rite Valves show additional economies because they stand up for years of trouble-free service.

Vent-Rite Valve No. 2 (illustrated) is the vacuum type, one-eighth inch side connection with siphon. Non-vacuum valve in the same style is Vent-Rite No. 1. Use efficient, easy-to-install Vent-Rite Valves on your next job.

Anderson Products, Incorporated
Cambridge 39, Massachusetts

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CUSTOMER SATISFACTION

Comfortzone
• OIL FIRED
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• BOILERS

Satisfies a wide range of requirements

Ideal for single dwellings, apartment houses, barber shops, beauty parlors, bakeries, restaurants, gymnasiums or wherever an abundance of hot water is needed.

Comfortzone oil-fired hot water heaters and boilers are constructed of the finest steels, galvanized inside and out, built for many years of trouble-free operation. Economical—Compact—require very little operating space.

MODEL 90-B—Delivers 65,000 B.T.U. at the outlet. Can be used with or without auxiliary storage tank. (90 gallons of hot water raised 80°).

MODEL 200-B—Delivers 138,000 B.T.U. at the outlet. Can be used with or without auxiliary tank. (200 gallons of hot water raised 80°).

MICHIGAN
TANK & FURNACE CORP.
14247 TIREMAN AVE. • DEARBORN, MICH.

pany. His preparation for his new duties included time spent in the factory becoming familiar with all phases and problems of production and service and several months spent with New England dealers and Midwestern representatives to secure a complete background of field operations.

Thomas F. Gessner is announced as advertising manager, United States Radiator Corp., Detroit, Mich., and its Pacific Steel Boiler Div. Mr. Gessner, who started his business career as a reporter in 1918, comes to U. S. from Goodspeed-Detroit Co., where he was sales manager. Previously, he has been assistant director of public relations, Evans Products Co. and for seventeen years advertising manager, Detroit Edison Co.

Paul S. Park, who has been with A. M. Byers Co., Pittsburgh, Pa., for four years, has become manager of its engineering service department. In addition to handling engineering problems dealing with wrought iron pipe's use in industrial applications, Mr. Park's department has been instrumental in developing radiant heating systems.

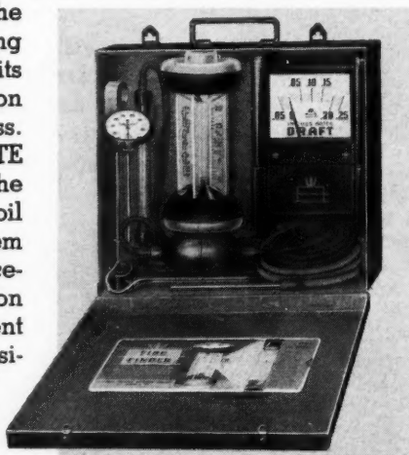
A REMARKABLE OPPORTUNITY *for* AGGRESSIVE OIL BURNER DEALERS

Turn the threatened fuel stringency into a selling argument to build prestige and profits for you. Here's how:

Equip each one of your sales and service men with a FYRITE Combustion-Test Kit. It contains a complete set of practical testing instruments to make a dramatic "fuel-saving" check up and demonstrate the adjustments required to reduce fuel bills.

By featuring the FYRITE test in your sales and service calls you tell your customers and every prospect that you are equipped to adjust old oil burners for maximum fuel economy. Service work which is keyed to, and sold on the basis of, fuel conservation will ring up *important* immediate profits and build real customer satisfaction and good will for future business.

And remember that the FYRITE test will enable you to find the owners of old and worn-out oil burners and demonstrate to them convincingly the need of replacement of their obsolete installation by more modern and efficient equipment. This replacement business is profitable and of real importance during these times of temporary fuel restrictions.



Illustrated here is the FYRITE Master Kit. It provides combustion-testing equipment of broadest possible versatility for quick, accurate readings of draft, stack temperature and CO_2 content of the flue gases necessary for satisfactory and economical burner operation.

For further information see your jobber or write to us for free Bulletin 733.

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 BENNETT STREET—PITTSBURGH 8, PA.

Aluminum Warm Air Ducts

(*Continued from page 74*)

dock, to storage, from storage to fabricating area, to layout table. Once the shop sets itself up to handle coils, considerable savings will immediately become apparent from elimination of the necessity of handling the stock sheet-by-sheet as is customary with flat material.

Aluminum in 2S-¾H material will readily take any type of mechanical interlocking joint design including the Pittsburgh lock seam produced in lock forming machines. No change in the setting of the machines is required for aluminum. It forms perfectly with same settings on shears, lock formers, etc., as used for galvanized or black iron of same thickness.

Round and Square

Ordinary grooved, single seamer machines will make round pipe. Aluminum for round pipe is crimped and beaded in the same manner as other materials and on the same machines with the same settings.

Square ducts are usually made with top, bottom and sides as separate pieces, or top and side as one piece, bottom and side at the other, depending upon size of the duct.

A number of sheet metal shops point out that Pittsburgh lock seam assemblies should not be malleted shut completely when making shop assemblies, because some difficulty may be encountered in fitting in the duct on installation that will necessitate changing it slightly. This changing usually requires opening of the Pittsburghs and subsequent closing.

Aluminum may not always withstand this repeated sharp bending and rebending, so they recommend closing only an inch or two of the Pittsburgh at intervals of 8-10 inches along the seam when assembling ductwork in the shop. This facilitates opening if changes are required. Of course, more accurate measuring of the jobs before fabrication will assure proper fits and eliminate any need for changes during erection.

Aluminum can be riveted in same manner as black and galvanized sheet. In fact riveting is the most widely used method of joining aluminum sheet for aircraft work. Self-tapping sheet metal screws are not recommended for use in

THERE'S A Draft-O-Stat FOR EVERY REQUIREMENT

MODEL "B" DOMESTIC
—new design

The new Model "B" Draft-O-Stat represents the latest achievement in precision combustion control for the small heating plant. Adjustable counter-weighted flutter controls draft barometrically, saving fuel, reducing smoke and soot, and improving furnace operation. Two sizes, to fit flue pipes from 6" to 9".

MODEL "A" DOMESTIC

The original Draft-O-Stat for automatic control of chimney draft in furnaces and boilers. Adjustable counterweight provides precision control of draft. Available with or without thimble. Nine sizes, 7" to 20".

COMMERCIAL

For use in apartment buildings, hotels, schools, small factory and office buildings. Can be used on natural-draft or motor-driven oil burners, hand-fired boilers, stokers, and forced-draft installations. Available with or without hand control. Four sizes, 16", 18", 20" and 24".

INDUSTRIAL

Sturdily built heavy-duty draft control for large heating plants. Available with or without breeching plate and thimble, and with or without locking device. Like other Draft-O-Stats, it pays for itself in most cases, out of one year's fuel savings. Three sizes —24", 30" and 36".

Write for descriptive literature.

THE HOTSTREAM HEATER CO.

6925 Quincy Avenue • Cleveland 4, Ohio

Manufacturers of water heaters and draft controls

DESIGNED FOR PERFORMANCE

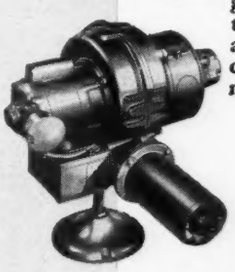
BUILT FOR LONG LIFE

ALDRICH HEAT-PAK PRODUCTS

ALDRICH OIL BURNERS

MODELS AX-1 AX-2 AX-3

The AX Models cover 90% of all conversion needs in residences and many commercial and industrial jobs. Low-cost interchangeable draft tube assemblies and air cones enable quick modification covering 3 nozzle capacity ranges: AX-1, .75 to 1.35 gph; AX-2, 1.35 to 2 gph; and AX-3, 2 to 5 gph. Various lengths of draft tubes available. You can meet a wide range of customer's requirements with a minimum stock.



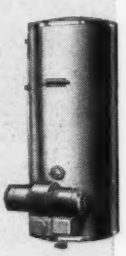
The Model BX Burner is a larger size than the AX, covering a nozzle capacity range from 4 to 9 gph.

MODEL BX

MODEL JU

The Model JU Jumbo Burner is a heavy-duty model for larger buildings. It has a ¾-hp motor, and duplex nozzles and ignition. Nozzle capacity range is from 5 to 19 gph.

All Aldrich Burners are shipped complete with automatic controls, as specified, for warm air, steam, or hot water heating plants. Aldrich Products have gained wide and favorable acceptance, largely due to high quality construction that insures peak performance through a long and useful life.



BOILER-BURNER UNITS

Made in 6 sizes for hot water heating, steam heating, or hot water supply. Capacities 85,000 to 808,500 BTU per hour. Extremely well-made throughout.

Write Today for Complete Data and Price Lists

ALDRICH COMPANY

OIL BURNERS • BOILER-BURNERS FOR HEATING AND DOMESTIC WATER SUPPLY

103 EAST WILLIAMS ST., WYOMING, ILL.

fueloil & oil heat

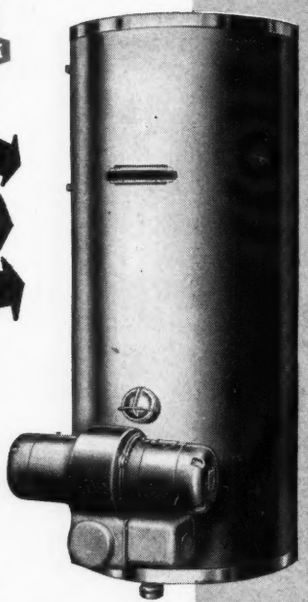
A MULTITUDE OF POSSIBLE USES...

HEAT-PAK

HOT WATER HEATING

STEAM HEATING

HOT WATER SUPPLY



ALDRICH

BOILER-BURNER UNITS

Residences are *NOT the only places* where these units can be sold. Alert and progressive dealers will recognize a multitude of chances to make good sales in the following suggestions:

COMMERCIAL AND INDUSTRIAL BUILDINGS — Stores, theatres, factories, apartments, etc. For heating and hot water supply, new and replacement installations.

RESTAURANTS — For steam tables and dishwashers.

LAUNDRIES — Commercial and self-service. For heating and all hot water and steam requirements.

HOSPITALS and other **INSTITUTIONS** — For sterilizers, laundry, heating, hot water supply.

INDUSTRIAL PLANTS—For processes such as degreasing. For lavatories, heating, and hot water supply.

GARAGES — For washing and steam cleaning.

DRY CLEANERS — For low pressure pressing machines. The same for clothing manufacturers.

DAIRIES — Any processing requiring steam or hot water.

DON'T MISS THESE OPPORTUNITIES. Look around now for places where you can sell the efficiency, high performance, fast recovery, and economy of Aldrich Boiler-Burner Units.

ALDRICH OIL BURNERS

The widely-favored, skilfully-engineered, dependable Aldrich burners are made in 3 types and 5 models with capacities ranging from .75 gph to 19 gph.

Write Today for Complete Data and Price Lists

ALDRICH COMPANY

OIL BURNERS • BOILER-BURNERS FOR HEATING AND DOMESTIC WATER SUPPLY

103 EAST WILLIAMS ST., WYOMING, ILL.

The BURNRITE Anti-Syphon Valve

RELIEVES strain on fuel pump!

PREVENTS back syphonage!

When you specify and install the BURNRITE Anti-Syphon Valve on either new or existing oil fired jobs, you do your customer a real service. You prevent the back syphonage of fuel oil that otherwise retards oil burner performance. You provide the means of taking the strain off the fuel pump and thereby improve and greatly extend its years of service.

Approved by National Board of Fire Underwriters. . . . Approved by New York Board of Standards and Appeals.

BURN RITE

PROMOTES top efficiency!

The BURNRITE Anti-Syphon Valve actually helps to make the burner burn right! It helps, too, to banish agitating chatter and the hum of motor vibration. It is a rust-proof and low vacuum operating unit, requiring no attention. BURNRITE keeps the burner functioning constantly at top efficiency.

OPTIONAL 5 OR 10 FOOT HEADS

Make BURNRITE a definite part of every oil burner job . . . get in touch with your wholesaler or write us direct.

BURNRITE VALVE MFG. CORP.

177 W. FIRST ST., MT. VERNON, N.Y.

aluminum for duct work—they tend to loosen up because these alloys work so easily. In addition to its use for air ducts, there are many other applications in heating, and air-conditioning work where aluminum can be used to advantage.

Also Use To Make . . .

Duct Dampers: It is general practice to use aluminum for both splitter dampers at openings of branches into mains and also for volume control dampers placed in the first straight section of the branch for controlling air volume. Where return dampers are used, these also are of aluminum.

Return Air Runs in Foil: An application just barely mentioned previously is the use of very thin aluminum (0.008-inch or 32- gage B & S) for panning return air runs. Many building codes require that the top of return runs (against the bottom of the floor above) be lined either with paper or metal. The thin aluminum is readily pushed between the joists and up against the floor above where it can be stapled in position with a hand stapler in no time.

For single-joist space runs, the foil is purchased in coils 16 inches wide, and 32 inches wide for double-joist runs. The coils are brought to the job and lengths cut off as required, eliminating both seams and scrap.

Furnace and Blower Casings: Many manufacturers of automatic oil furnaces, hot water heaters, blowers and the like are going to the use of aluminum casings because of their non-rusting quality and long life combined with the many fabricating advantages and lighter weight that saves freight and delivery charges. Where it is desired to paint the metal to match some decorative scheme, a thin coat of zinc chromate primer followed by a single coat of paint or baked-on enamel will do an excellent job. The aluminum should be employed only for outer furnace casings, not on inner casings that would exceed 500-600° F. during operation.

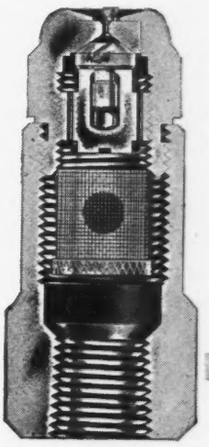
Smoke Pipes: It is true that even the best galvanized material is good for only a short time in this application due to the combined action of flue gases, high temperatures with resulting excessive rate of oxidation, frequent condensation on both inside and outside, and rain water running down the chimney.

It is also true that aluminum is more resistant to all of these deteriorating factors than other commonly used materials except possibly the high temperatures encountered in the first two lengths of pipe leading from the furnace. Here temperatures up to 800° F. may be reached, and aluminum is not recommended for continuous operation at temperatures above 500-600° F.

So whether or not aluminum will give better service than other materials in those first two lengths of pipe is somewhat of an open question. However, it is definitely known that for the third, fourth and succeeding lengths, aluminum will show a longer life and so is recommended for those positions.

Do not use aluminum pipe connected directly to black pipe because of the possibility of electrolytic action between the two. Instead use aluminum with galvanized. Black pipe contacts are satisfactory provided they are first covered with aluminum paint, zinc chromate primer, or the like.

Finest
NOZZLE
Ever Made



Still Available at 1941 Prices

in spite of increased labor and material costs

Balloffet Design Nozzles by DELAVAN

Famous Balloffet Design oil burner nozzles have been continuously improved through years of constant and concentrated study by Delavan engineering and production specialists. This constant improvement without a price increase, explains why:

1 — Delavan nozzles are still preferred by the oil burner industry.

2 — More Balloffet Design Nozzles are bought by the industry than any other nozzle.

3 — They produce a better, more efficient fire.

4 — They are more uniform and more accurate.

5 — They cost less per season.

For maximum economy and best results, install a new nozzle every year—and be sure it's a DELAVAN (Balloffet design) nozzle with DELAVAN accessories.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

DELAVAN ENGINEERING CO.

Established 1937

DES MOINES 9, IOWA

DE

Find Building Going At Record High Rate

THE INCREASE in home building since World War II has been at a much more rapid rate than was the case after the first World War, David S. Miller, president of the Producers' Council, stated October 22, before the New York State Association of Architects.

"The number of new permanent type housing units started in the first two years after World War II is estimated at 124% of the 1940 rate, whereas the number started in 1919 and 1920 averaged only 95% of the 1916 rate," Miller said.

"Estimating the number of starts in 1947 at 825,000, the number of new housing starts in the first two full years after the recent war will total 1,495,500, whereas only 652,500 units were started in the first two years after World War I.

"Moreover, another 150,000 temporary units have been constructed during the last two years for emergency use by veterans, bringing the total number of units to 1,645,500 for the period.

"During the last few months, home building has been proceeding at a rate of more than 900,000 units a year, allowing for seasonal adjustments. This rate was not approached until the seventh year after World War I, when 937,000 units were started in 1925."

◈

FHA Mortgage Applications Forecast Building Activity

CONSTRUCTION during September was started on 24,073 new dwelling units, financed and built under the Federal Housing Administration program, approaching the record volume of 25,167 reported begun in August, according to a recent announcement of Commissioner Franklin D. Richards.

Continued high activity in home building is indicated by applications for new FHA construction mortgages received during September at field offices. They cover a total of 32,844 dwelling units, compared with 30,957 in August.

During September a total of 14,066 mortgage insurance applications covering existing one to four family houses were received to establish an all-time record. Applications were made under normal provisions of the National Housing Act (Sec. 203, Title II).

◈

Deep Rock Again Leads In Midwest Price Rise

DEEP ROCK OIL CORP. announced increases in tank wagon prices of domestic heating oil and range oil of ½¢ a gallon, effective October 13. On the same date it raised diesel fuel prices a full cent. This is the second time in two months that Deep Rock has taken the lead in price increases throughout the Midwest. The last time, in August, the rise was followed quickly by most independent fueloil distributors and later by majors.

There will also be a small additional increase due to rail freight rates going up on the same date, with the full freight rise being reflected in both wholesale and retail prices.

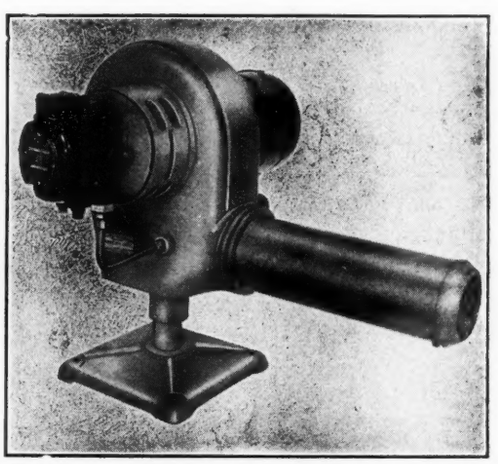
Commenting on the present moves, B. L. Majewski, vice-president, said, "Marketers of petroleum products are entitled

HEAVY CAST IRON

MOHAWK

OIL BURNERS

• • •



Yes we are still meeting the demand for all Cast Iron Mohawk Burners.

Question—Why?

Answer—Due to the following advantages—

Minimize—Motor Wear — Vibration — Noise

Eliminates—Warping — Deterioration

Guarantees—Perfect Alignment

Manufactured by American Mohawk Co., Inc.

580 Hudson St. 14, N.Y.C.

Tel.—Watkins 9-4120

to prices for their goods which are justified in the light of current economic conditions. Increases in wholesale costs make it necessary that the tank wagon increases be put into effect without further delay in order that maximum production of heating oils might be achieved."

A.P.I. Fueloil Booklet May Still Be Ordered

THE BOOKLET, "How To Save Money on Oilheating," prepared by the Fueloil Conservation Committee of the American Petroleum Institute, may still be ordered in limited quantities.

Describing fifty ways to save fuel, the booklet was designed for fueloil distributors to mail to their customers to interest them in conservation. The booklet makes no reference to fuel supply shortages.

A million copies are now being printed and will be ready by November 1. Of these, 952,000 copies had been sold by October 22. Apparently a few thousand will be available to order after you read this.

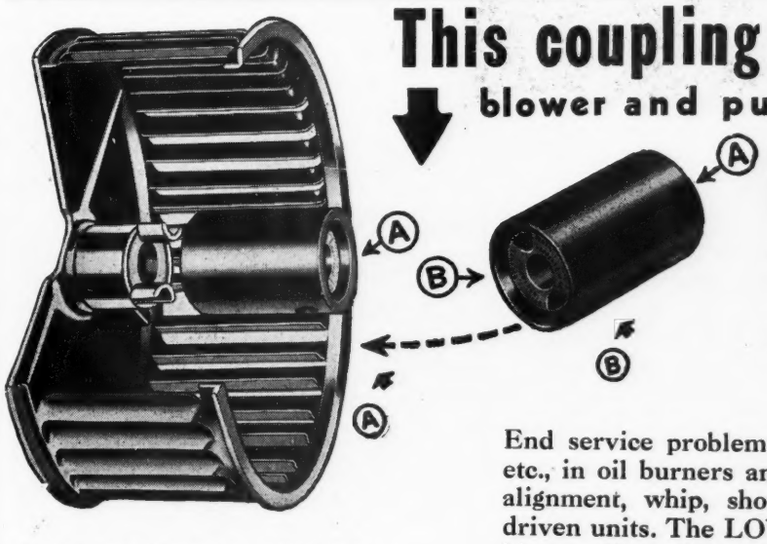
The cost is $6.00 per hundred. Order them through Wesley Nunn, Standard Oil Co. (Indiana), 910 South Michigan Ave., Chicago.

James G. Moravec has succeeded Howard C. Shilling, resigned, as manager, Moline, Ill. branch office, Penn Electric Switch Co., Goshen, Ind. Mr. Moravec is a graduate engineer who has had wide experience in the application and sales of automatic controls for heating and other uses. He entered military service in January 1942, after having managed the Moline branch for approximately five years, and was released from active duty in July 1947.

Albert A. Ricker has been designated assistant to the president, Jack & Heintz Precision Industries, Inc., Cleveland 1, Ohio. He holds the position of vice president in charge of finance and will retain that position while fulfilling his new duties.

Erling E. Olsen, Portland, Ore., the latest addition to the field sales force, Harvey - Whipple, Inc., Springfield, Mass., will cover the states of Oregon, Washington and northern Idaho in contacting established dealers and organizing new outlets. He is well-known in the Northwest territory and for the past ten years worked in that area establishing heating and appliance dealers.

John J. Manning, president, Manning and Lewis Engineering Co., Newark 4, N. J., manufacturers of fueloil preheaters, died October 19. The company closed all day October 22 as a gesture in respect for his memory.



A.—L-R Body inserted in rubber body.

B.—L-R Socket molded in rubber engages blower hub.

This coupling can't fall off when blower and pump units are serviced

LOVEJOY L-R Type CX Double-flex Flexible Couplings

End service problems due to wear on pumps, small motors, etc., in oil burners and air conditioning units because of misalignment, whip, shock, surge, backlash between drive and driven units. The LOVEJOY L-R Type CX Double-flex flexible coupling efficiently corrects for these enemies of machinery, and is so constructed that it can't fall off when units are serviced.

EASILY INSTALLED IN DARK OR CLOSE QUARTERS

Rapid assembly, ease in installing, low cost, all make the Type CX Double-flex the *first* coupling to consider for efficient, economical use in your heating and air conditioning products. Manufacturers will supply blowers having L-R jaws on the blower hub.

Write for Bulletin 520 on the Lovejoy L-R Type CX Double-flex coupling.

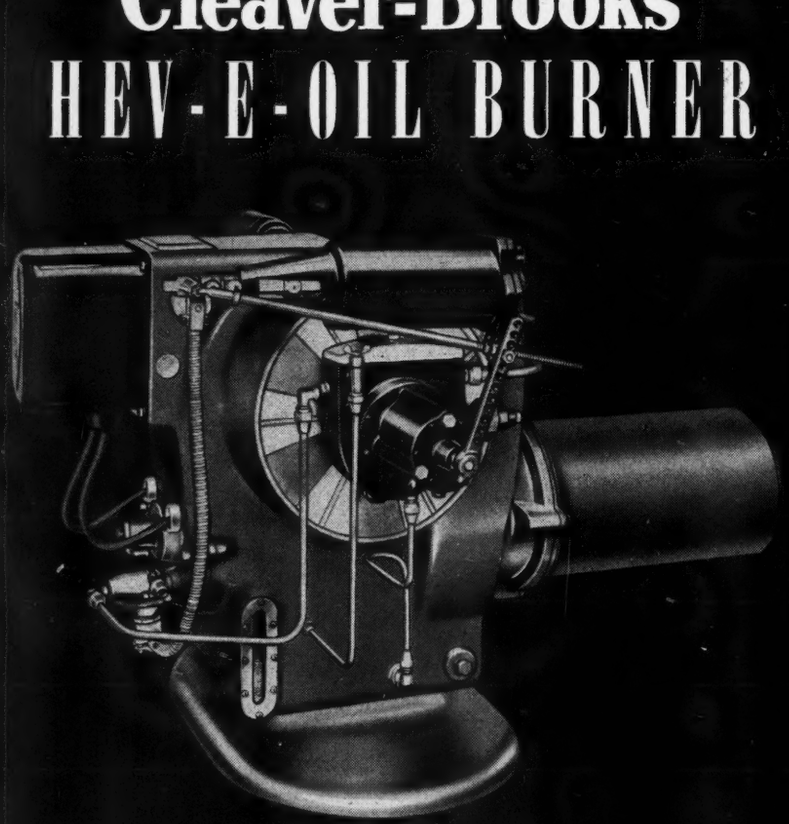
LOVEJOY L-R Couplings from 1/6 to 2500 H.P.

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

Cleaver-Brooks
HEV-E-OIL BURNER



FEATURES

- Burns low-cost zero-test No. 5 oil.
- Burns catalytic oils.
- Automatic Electric Ignition.
- Flame Modulation.
- Low Fire Start.
- Automatic Pressure lubrication.
- Nozzle oil shut-off valve.
- High Combustion Efficiency.
- Built by pioneers in oil-fired steam generators, who have the know-how of high-efficiency oil combustion.
- Available in sizes for immediate delivery for home, commercial and industrial use.

Profitable franchises to reliable established dealers.

HEV-E-OIL BURNER DIVISION • CLEAVER-BROOKS COMPANY

363 East Keefe Avenue, Milwaukee 12, Wisconsin

Peaks and Valleys

(*Continued from page 79*)

until today the average refinery serving this territory is producing annually better than half as much distillate fueloil as he is of gasoline and the end is not yet in sight. I am not going to attempt to estimate what the future requirements for distillate fueloil are going to be. Many capable economists have already made such predictions but I would like to point out what appears to me to be a significant fact regarding the probable future growth in demand for distillate fuel particularly over the period of the next few years.

We know that there is today what appears to be an almost infinite demand for new automobiles and for new oilburners. A new automobile will cost, say $1800, against $300 for an oilburner. This ratio of 6 to 1 in the cost of these manufactured products is probably indicative of the relative amounts of steel and other basic commodities included in these articles. Since we are currently faced with shortages in steel and other commodities, which shortages will probably continue for some time, it is certainly reasonable to assume that oilburners will increase at a faster rate than automobiles for the next few years at least. An average domestic oilburner burns approximately 2000 gallons of petroleum products per year as against 500 gallons per car, or four times as much for an oilburner as for an automobile. Therefore, for at least the short range future it appears to me to be reasonable to expect that the demand for heating oils will increase much more rapidly than will the demand for gasoline. How is the refiner to meet this anticipated future condition? Perhaps by increasing crude runs although we are already straining at the seams in this respect—perhaps by manufacture of synthetic fuels although this development appears to be quite far into the future. The probability is, however, that the refiner will only be able to meet this increased demand by increasing still further his production of distillate fuels at the expense of his gasoline production.

To point out the significance of this simple statement I must elaborate somewhat on the intricacies of modern petroleum refining. Crude oil as it comes to the refinery is a mixture of literally hundreds of definite chemical compounds known as hydrocarbons. Some of them are quite

volatile and eventually find their way into ordinary motor fuel. The bulk of the compounds, however, are too heavy in their vaporization characteristics to be included as gasoline and find their way to a limited degree into kerosene and distillate fuels although the bulk of these heavier compounds are commonly used by refineries as charging stock to cracking units either thermal or catalytic where they are chemically decomposed and recombined to produce additional gasoline, and distillate and residual fuel oils.

It is a fundamental characteristic of this

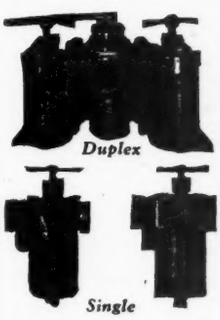
KRAISSL

FILTERS
STRAINERS
PUMPS

Keep Fuel Oil Lines Open and Active

Year-in, year-out performance proves the skill of KRAISSL engineering design and the honesty of KRAISSL manufacture.

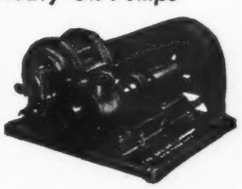
Class 72 Strainers and Filters



Single and Duplex types for suction or discharge service — any practical degree of filtration in units designed for low pressures as well as up to 500 lbs. hydrostatic test—easily removable filter basket insures quick cleaning.

Class 60 Heavy Oil Pumps

Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.



Submit your fuel-line problems to KRAISSL engineers—literature and prices on request.

295 WILLIAMS AVE.

KRAISSL THE KRAISSL COMPANY
HACKENSACK, N. J.

YOU CAN'T MISS

saving fuel and maintenance dollars by installing ELECTROL OIL BURNERS. Tell your customers about the exclusive and economy features of ELECTROL.

COMPACT, INTENSE FLAME . . . The Electrol inner and outer cone construction burns fuel completely in the combustion chamber. This old stand-by construction is even more appreciated with catalytic cracked oils.

QUICK CUT OFF . . . The Electrol drip eliminator with cut off point directly in back of the nozzle has a quick, positive action. It absolutely eliminates all after drip due to the reflected heat of the combustion chamber.

BURNER MOUNTED SAFETY CONTROL . . . The Electrol famous master control is installed, completely wired and tested at the factory. The sensitive element is unaffected by the efficiency of the boiler and gives constant performance regardless of stack temperature.

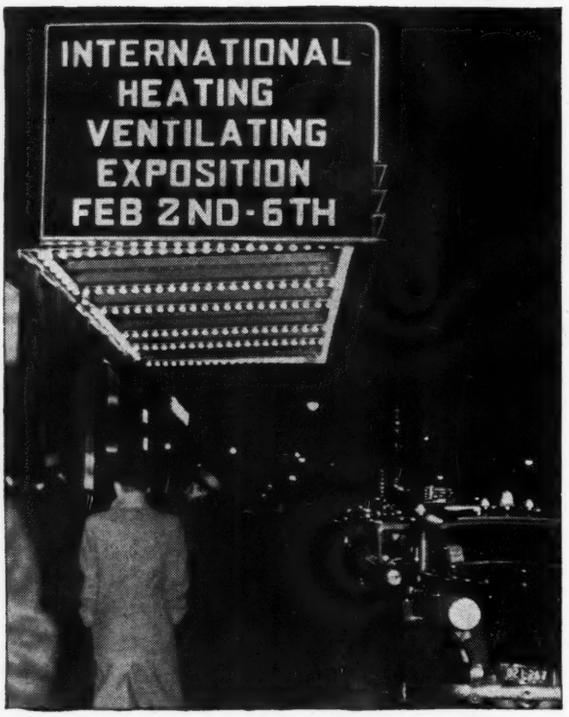
SELL THE EXCLUSIVE ELECTROL

ELECTROL BURNER MANUFACTURING CO., INC.

22 UNION AVENUE, RUTHERFORD, NEW JERSEY

PHONE — RUTHERFORD 2-8300

Portals to Progress



. . . in AIR CONDITIONING–HEATING–VENTILATING

Come to Grand Central Palace . . . New York City . . .
February 2 to 6!

Assembled here you'll see over 350 arresting displays and demonstrations of the newest and best ways to heat, ventilate and condition air for all types of commercial and public buildings, industrial plants, and homes. Here in less than a week's time you can study and compare the relative merits of everything from complete units to maintenance supplies—in the light of your customers' needs . . . discuss your problems and plans with technical attendants at the booths—men on hand expressly to help you with your problems, tell you what you want to know to keep abreast of the trends and practices in these active fields.

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EIGHTH
Air Conditioning
Exposition
INTERNATIONAL HEATING &
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GRAND CENTRAL PALACE • NEW YORK N.Y.
FEBRUARY 2-6-1948

Under Auspices of
American Society of Heating & Ventilating Engineers

8th Air Conditioning Exposition
Management International Exposition Co.

cracked gasoline so produced to be very much higher in anti-knock properties than is the gasoline which exists as such in the crude oil as received by the refinery. This high anti-knock property of cracked gasolines, whether it be thermally cracked or more particularly catalytically cracked, is what has made it possible for our refineries to produce higher and higher quality motor gasoline, to say nothing of the 100 octane aviation gasoline that was produced in such quantities during the war.

As you know, the higher quality of motor gasoline generally available today

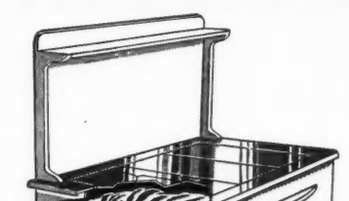
Profits!

Through the

SUPER-THERM

Combination

OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

THERM OIL BURNER CO.
Pioneers of the Oil Burning Industry
2105A Westlake Avenue
SEATTLE 1, WASHINGTON

has made it possible for the automotive engineers to design higher compression ratio engines and to pass on to the automobile user the higher efficiencies and better performance characteristics that have resulted therefrom. The free flow of competitive enterprise in our unregimented economy makes it imperative that every refiner maintain his gasoline at a competitive level as far as gasoline quality is concerned. If any refiner is forced to withdraw an excessive amount of distillate from the feed stock to his cracking units in order to meet the demand for such product he will become deficient in the amount of cracked gasoline necessary to blend his total gasoline to meet competitive quality. Therefore, for every refinery there is a balance between gasoline quality and the amount of distillates produced which cannot be violated without serious consequences to the refiner, and to a great extent this balanced relationship is independent of refinery price ratios.

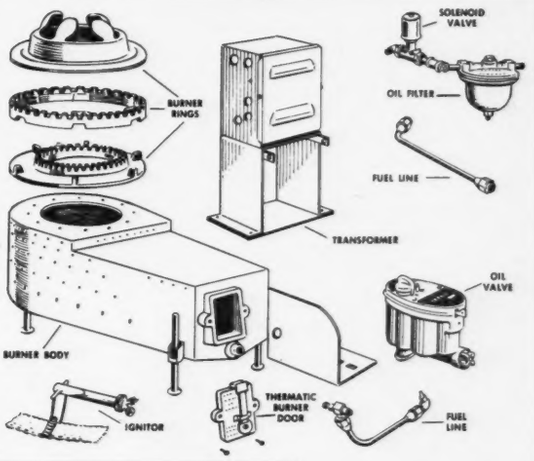
Predicts Uniform Yields

This maximum refinery ratio betewen distillate fueloil production and gasoline quality will vary with individual refineries but it is my own opinion that most of the refineries serving this territory are either at or close to this point at times today. I believe that these refineries can and will meet the requirements for distillate fuels on an annual basis today and for the foreseeable future but I also firmly believe that these refineries will have to produce their annual requirements of distillate fuels on a uniform production basis throughout the year if they are to meet competitive gasoline quality.

If, therefore, the production of distillates must be at a uniform rate throughout the year, and since the consumption will be seasonal, it is obvious that the production of distillates during the non-consuming months must go into storage. Furthermore, since at the present time approximately one-half of the heating oil consumed in the Eastern Seaboard is produced in the Gulf Coast refineries it is evident that this additional distillate fueloil which must go into storage should be stored not at the Gulf Coast but at locations on the Eastern Seaboard if we are to avoid an inefficient and expensive transportation situation. I therefore am sorry to report that, in my opinion, where refineries in the past have aided in meeting

H.C.Little has proved that AN AUTOMATIC OIL BURNER DOESN'T HAVE TO BE COMPLICATED

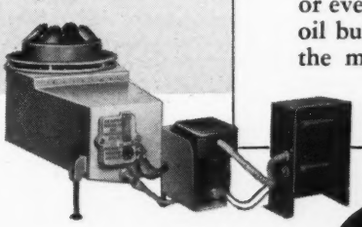
The function of an automatic oil burner is to convert oil into heat — efficiently, economically and without attention on the part of the owner. The less complicated the oil burner is, the less chance there is for something to go haywire. In which connection—



THE H.C.Little OIL BURNER HAS

NO MOTORS
NO BLOWERS
NO NOZZLES
NO MOVING PARTS TO GET OUT OF ORDER AND REQUIRE SERVICE

Try telling this story to the next 100 oil burner prospects you meet! But before you do, you'd better go out and buy a bigger cash register!



Not only is the H. C. Little oil burner less complicated, but in addition it is

THE ONLY VAPORIZING OIL BURNER WITH ELECTRIC IGNITION

so it is the only non-mechanical oil burner which provides truly automatic, intermittent (on and off) operation. Having NO PILOT LIGHT to waste fuel, make smoke, or even go out occasionally, the H. C. Little oil burner performs ALL the functions of the most complicated automatic burners.

Write Dept. 11 for full particulars

BRANCHES IN 18 PRINCIPAL CITIES

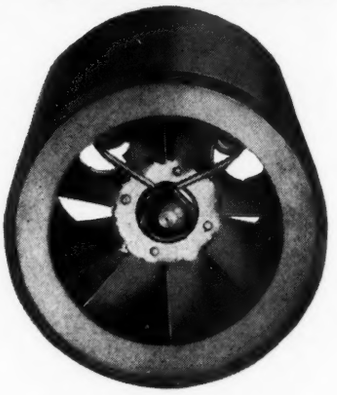
H.C.Little BURNER CO.

SAN RAFAEL CALIFORNIA

New, Proven SANBORN AIR SWIRLER

SAVES UP TO 20% ON FUEL OIL COST

By raising CO_2 up to 14½%

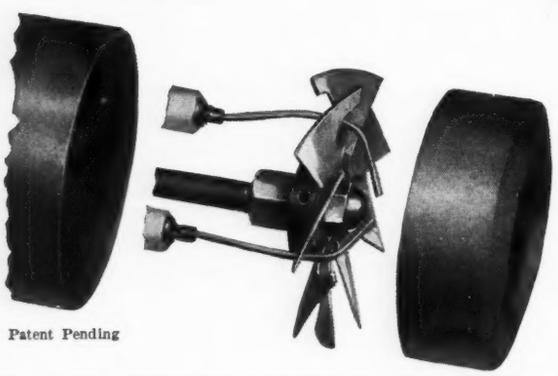


INEXPENSIVE — PAYS FOR ITSELF IN A FEW MONTHS

It scientifically and thoroughly mixes air with atomized oil, to produce perfect carburetion and complete combustion. Thus excess air, partly burned combustion gases and high stack temperatures are controlled and reduced to a minimum.

EXCELLENT RESULTS

- Does not reduce burner capacity
- Reduces high stack temperatures
- Raises firebox temperatures 300 to 500 degrees
- Cleans nozzle face



Patent Pending

SMOOTH PERFORMANCE

Eliminates

- Starting puffs
- Flame pulsation
- Nozzle baking
- Excess air
- Firebox soot

EASY TO INSTALL

- Nothing to adjust
- Requires only minor changes
- No moving parts
- Fits any gun type burner
- No special tools required
- Guaranteed

Immediate Delivery

Exclusive territories available for established distributors — Investigate Now!

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The Selling Man

A new and exciting book by W. A. Matheson, Executive Vice-President of Eureka Williams Corporation, long a leading figure in the Oilheating Industry. From a specialty sales career that started in 1921, he has written a book on personal selling that should be in the hands of every man in the oilheating business.

J. J. Nance, President of Hotpoint, Inc., Chicago, a specialty salesman and salesmanager of long experience, says:

> ***"W. A. Matheson has put into this book an actual training course in selling that is based on his many years of experience. Because his material is fresh and presented in an interesting manner, the reader may be unaware that each hard fact is based upon tested sales principles and techniques. His facts are effectively defined in a manner that shows the selling background of the author.***
>
> ***"Few men have had the opportunity that Mr. Matheson has had to gain experience extending to all levels of selling. As his first chapter explains, selling must be lived. In the chapters that follow he dramatizes the approach to each of the many situations that face a man during a selling career."***

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FUELOIL & OIL HEAT
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OK. Send my copy of "The Selling Man" to me immediately. Enclosed is my ☐ check ☐ money order ☐ cash for $..... for ..... copies at $5.00 a copy.

Name .....

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the seasonal unbalance of fueloils by varying their production seasonally, in the very near future refineries will be unable to assist in this matter to any appreciable degree. We will meet the annual requirements, but somebody else must take care of the variations between uniform monthly production and the varying seasonal demands.

Minner on Wholesale Angle

For many years it has been a common practice in the oil industry to compare the uneven operations of distributing petroleum products with the continuous flow of crude oil from wells or through the refinery. In the past, the industry always had considerable flexibility at the refinery level with which to meet changing demand conditions. Through the expedients of modifying yields at the refineries and increasing or decreasing crude throughputs, it was possible to adjust operations to seasonal conditions. There were some broad limitations on such adjustments but generally spare refining capacity made it possible to prevent supply crises from developing.

The tremendous growth in demand since the war ended has taxed refining and transportation facilities to the utmost, and problems of gearing operations to consumer demand are getting more and more attention. Spare capacity at the refinery level is no longer available for adjusting supplies to consumption patterns. In addition, the seasonal variations in demand are becoming larger and larger, and the combination of these factors present a challenge to the industry. We, in the marketing segment of the industry, must strive to find ways to solve the seasonal problem.

For the moment, let us dwell on the seasonal trend in demands for the four major refined products. I have here a bar chart prepared for the Interstate Oil Compact Commission on which are shown the relative proportions of U. S. demand for all petroleum products occurring during the six-month periods of October 1 through March 31 and April 1 through September 30. Going back several years, we note that demands during the two periods were approximately equal, with the demand during the Spring and Summer months exceeding that of the Fall and Winter months before 1930. As oil-heating assumed a position of prominence

1 to 20 GAL. CAPACITY

CHECKS FIRST *with the* FINEST

AMERICA'S MOST COMPLETE

CONVERSION LINE

MODEL GBF

Designed for churches, stores, homes, apartment houses and factories. Cap. 3½ to 8 gals. per hr. Dual atomizer. ¼ H.P. motor. Blower tube 6" Diam. Universal Joint drive coupling. Nitroloy steel electrodes. Underwriters approved. Time tested and found economical and dependable. Minn. Honeywell controls.

MODEL FM

Right for large stores, churches, factories, and buildings. Three sizes—8-12 Gals. per hr., 12-16 Gals. per hr., 16-20 Gals. per hr. Dual Atomizer, ½ H.P. motor. Blast tube 7" Diam. Nitroloy steel electrodes. Universal Joint drive coupling. In successful operation since 1934. Minn. Honeywell controls.

MODEL GAF

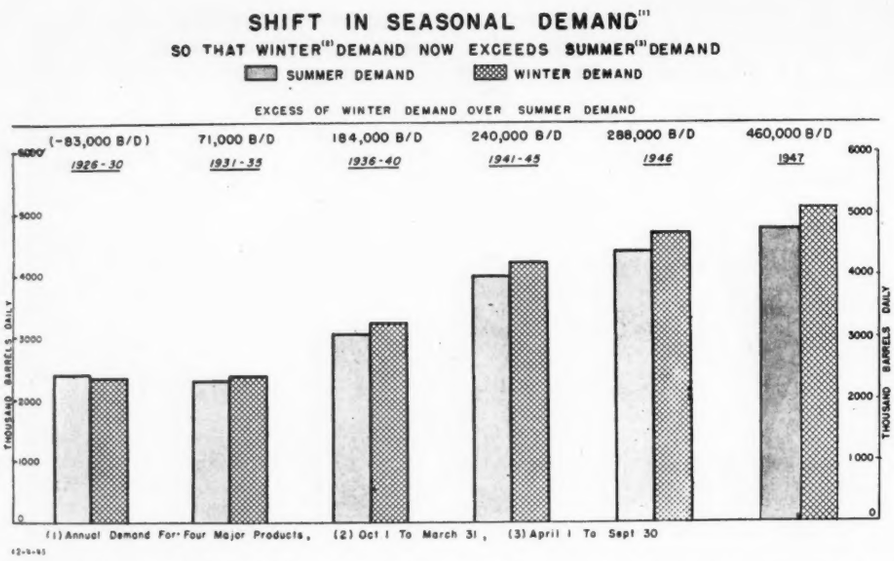
Excellent for home installation and conversion. Cap. 1-3 gals. per hr. Single atomizer. 1/6 H.P. motor. Blast tube 7"—10"—13"—20" length as required. Nitroloy steel electrodes. Universal Joint drive coupling. Proven in many installations. Minn. Honeywell controls.

PROMPT DELIVERY ON COMPLETE LINE

Protected Dealer Franchises Open.

GENERAL OIL BURNER CORPORATION

2300 Sinclair Lane, Baltimore 13, Md.

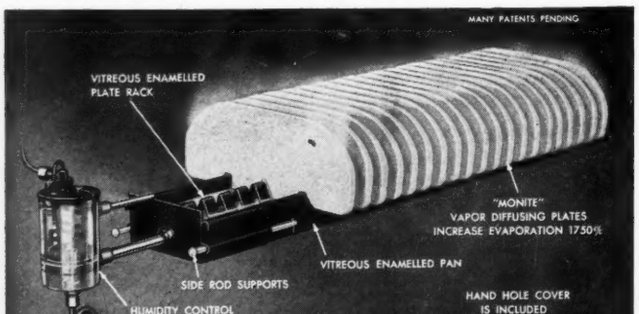


in the industry, the pendulum swung in the other direction. By 1946, we had reached the point where the demand during the heating season October through March exceeded that for the peak gasoline period April through September by 288,000 barrels daily. This year, the difference is expected to be approximately 460,000 barrels daily. Expressed another way, the demand for the four major petroleum products during the peak consuming season is now 10% greater than it is during the period of lowest consumption.

On the Eastern Seaboard, this difference is even more pronounced because of the rapid growth of demand for kerosene and distillate fueloils for heating purposes. Whereas in the country as a whole two gallons of light fueloil are sold for every four gallons of gasoline, on the East Coast three gallons are sold for every four of gasoline. The result is that 55% of the annual demand here occurs during the October through March period, which demand percentagewise is about 20% greater than that for the balance of the year.

The disruption of the seasonal demand balance for products presents a number of problems, the solutions of which will require sound thinking and close cooperation between the various segments of the industry until we again have spare refining capacity with its attendant flexibility. Foremost among these is the current problem, and incidentally one which will concern us greatly during the next few years, of stocking sufficient fueloils in the off-season to supply consumers' requirements during the peak months of consumption. Since about 80% of the consumption of heating oils takes place in the six months from October through March, almost 40% of this oil has to be withdrawn from storage to meet the consumption requirements, if production is rated evenly throughout the year.

Now, with the demand for fueloil increasing more rapidly than the demand for


MANY PATENTS PENDING
VITREOUS ENAMELLED PLATE RACK
"MONITE" VAPOR DIFFUSING PLATES INCREASE EVAPORATION 1750%
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SIDE ROD SUPPORTS
HUMIDITY CONTROL 4 TYPES VISIBLE FEED & WATER LEVEL
HAND HOLE COVER IS INCLUDED

MONMOUTH HUMIDIFIERS

● This accessory is really an outstanding PROFIT ITEM for any dealer! You do not have to carry a large stock —with *three sizes* selected from the entire Monmouth line, you cover about 80% of all installation requirements. Get our price on this 3-package kit, with your recommended sales price, and then figure up the nice profit you have every time you put in a Monmouth. Installing a humidifier alone is a profitable job, and when added to furnace repair, reset or replacement work, it is doubly worth while.

Every warm air system, new or old, needs healthful, automatic humidification. For dependable service and trouble-free efficiency, Monmouth leads them all—correctly engineered, conscientiously built—no headaches afterwards. We also make Monmouth Humidity Conditioners for all radiator jobs. Details and prices on request.

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We have been manufacturing draft controls for years—*for every type and size of heating and power installation.* We believe we have the solution to any draft control problem confronting you.

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You Saw it at the Heating Show in January

IT'S REFINED, FIELD PROVEN, AND IN PRODUCTION NOW!

New UNAPAC

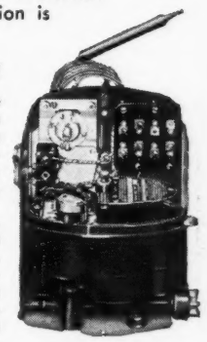
Completely Controls EVERY Function of the Vaporizing Oil Burning Furnace

COMBINES IN ONE COMPACT, SIMPLIFIED UNIT —

- ★ Thermostatic Temperature Control
- ★ "Magic Pilot" Oil Control
- ★ Limit Control
- ★ Blower Control
- ★ "Modulating" Draft Control
- ★ Summer Air Circulation

UNAPAC makes the modern Vaporizing Oil Burning Furnace the Most Completely Automatic Heating Equipment on the Market

Beautifully streamlined, amazingly compact, the UNAPAC, operating through its sensitive room thermostat, meters oil to the burner through the efficient "Magic Pilot" control; controls plenum chamber temperature; actuates furnace blower fan; and, through the A-P Auto-Air Unit, accurately modulates draft to the burner for proper air flow balance at all burner positions (not just one or two positions). Separate switch for summer air circulation is readily accessible; and manual operation is provided in case of current failure.



SIMPLE TO INSTALL AND SERVICE

The UNAPAC has only three mounting holes (no mounting brackets required). Even an amateur can mount it quickly, for there is only ONE way it can be put on the furnace. Then it merely requires inserting bulb in the plenum chamber, and connection to power line and low voltage wires (for thermostat).

● The UNAPAC is also easier to inspect and service. Removing the streamlined cover requires loosening a single screw, exposing the entire control system. Oil control is readily accessible, and if special control setting is necessary in the field, the "Magic Pilot" oil control can be easily taken out of the UNAPAC mounting and another control of desired flow capacity inserted in a matter of minutes, without disturbing wiring details.

BE FIRST WITH THE LATEST — Install UNAPAC on your furnaces — for greater eye-appeal and sales-appeal. Write for details.

AUTOMATIC PRODUCTS COMPANY

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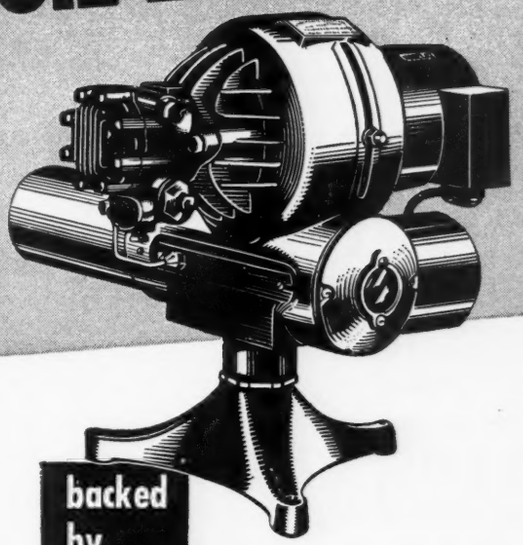
A-P DEPENDABLE OIL CONTROLS

DESIGNED TO ELIMINATE SERVICING

Nu-Way OIL BURNERS



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- **EXCLUSIVE SALES FEATURES**
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Backed by over 25 years of experience, Nu-Way engineers have consistently introduced advance developments in the field of automatic oil heating. High standards of production have been maintained, even during periods of material shortage, to assure the best in quality and service. The Nu-Way policy of quality production is backed by a fair distribution plan. Production is allocated to meet demands of the present list of Nu-Way distributors. As production increases Nu-Way Burners will be made available to new jobbers, distributors and dealers. Get more details now on the Nu-Way line of oil burners!

EXCLUSIVE NU-WAY SALES FEATURES

Nozzle shield for trouble-free service. A patented Nu-Way feature.

Air adjustment for positive air control. A patented Nu-Way feature.

THE Nu-Way CORPORATION

ROCK ISLAND, ILLINOIS

Serving Distributors, Furnace and Boiler Manufacturers

Quality Oil Burners Since 1921

Nu-way

OIL HEATING EQUIPMENT

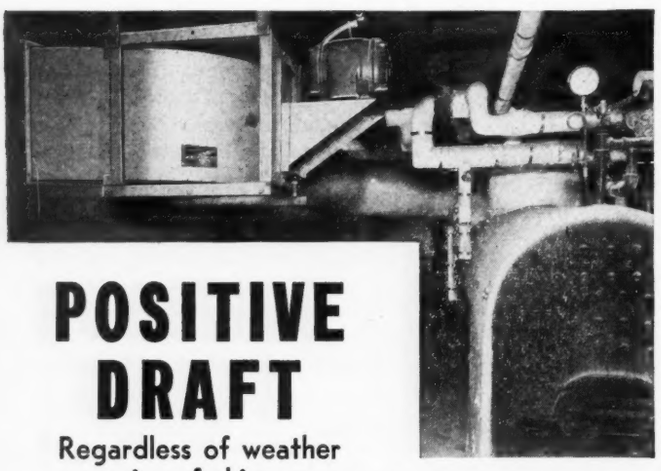
gasoline, the unbalance will become even more significant in the future. At some refineries, it may be possible to adjust yields to maximize production for current consumption, producing gasoline during the summer and fueloils during the winter. At others, this course may not be open. Some may choose to increase storage capacity sufficiently for uniform operation, with some flexibility afforded by the usual practice of shifting tanks from gasoline to light fueloils and vice versa, depending on the season.

Refinery Storage Not Answer

From the transportation standpoint, it is impractical to look to refinery storage as the solution to the problem of smoothing the flow of products. A substantial portion of the refined products sold in District I originates at the Gulf Coast. Crude to run East Coast refineries must also be transported by tankers from the Gulf and foreign sources. Obviously, the most efficient operation of tankers requires even operation throughout the year. It is fundamentally uneconomic to have a part of our tankship fleet idle for 6 months during the summer, in order to move oil out of refinery storage to markets on the East Coast during the winter. Predicated on the demand figures previously mentioned, it would mean that about 1 out of every 6 tankers would be in service for only the short period of peak demand during the winter. The current tight tanker market, though stemming from an artificial condition, is an indication of the pressure of heavy seasonal requirements for fuels.

The transportation factor even limits the wholesaler's ability to cushion the shock of heavy winter demand. We must have the seasonal storage as close to the point of consumption as possible, recognizing that the ideal condition would be sufficient storage at the consumer level to effect the balance. While this objective may be unattainable, much can be accomplished along this line through the promotion and sale of larger storage tanks for domestic heating installations. This will require an education program on our part—one designed for the purpose of impressing the consumer with the desirability of buying a larger tank. The advantages of assured supplies, less frequent deliveries and the possibility of realizing a saving by buying oil at lower prices—all are sufficient reasons why larger storage pays the consumer. Nevertheless, the consumer must be "sold." Remember, there are many independent burner dealers whose primary interest is that of selling the oilburner and who, from the profit standpoint, may choose to install small tanks. Also, local safety ordinances are a definite limitation on what can be accomplished where installations require inside storage. However, numerous opportunities will exist for installing larger storage tanks than those used in the past, and the industry must capitalize on those. Failure to do so means higher costs of operation for the industry.

The dealer, whose role is a dual one in the seasonal story, profits greatly from additional storage at the consumer level. In the smoother operation which results, a use is found for transportation equipment which otherwise might be idle during the summer months. The peak load during the winter months is reduced and, most important, delivery costs are lower because of larger dumps and less frequent calls. Thus, there is a reward for the fueloil dealer who works closely with burner



POSITIVE DRAFT

Regardless of weather or size of chimney

Waste of valuable heat units caused by incomplete combustion often results from inadequate draft. Wing Draft Inducers maintain an even, constant suction to furnish the correct air volume for complete combustion.

Write for Bulletin 1-10

L. J. WING MFG. CO.
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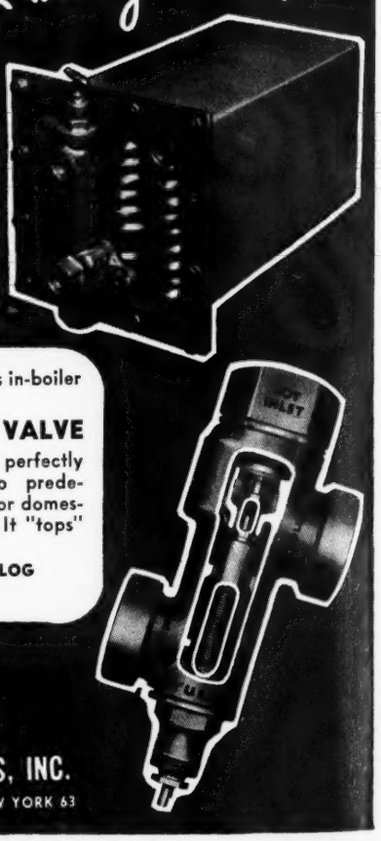
CAUSES OF POOR DRAFT

1. Chimney too low to create the required "pull" in the furnace.
2. Chimney diameter too small, creating restriction in gas flow.
3. Complicated breeching — too long, with too many elbows or restricted areas.
4. High surrounding structures "blanketing" chimney's draw causing "down drafts."
5. Variable weather (such as "muggy" days or when the wind is in the wrong direction, etc.).

Wing Draft Inducers

HOT WATER with Greatest of Ease



C.H.M. Residential Shell Tankless Heaters (Can be used with steam or hot water heat)

C.H.M. In-Boiler Tankless Heaters (For Residences, Apt. Houses, Industrial Buildings) Can also be furnished as in-boiler heaters.

YULA MIXING VALVE

The Yula Mixing Valve perfectly tempers hot water to predetermined temperature for domestic use at lowest cost. It "tops" them all.

WRITE FOR CATALOG to Dept. F11

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WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

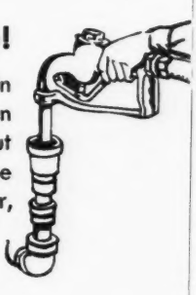
IN ICICLE WEATHER

Making Fill Pipe Connections Means Lost Time . . . Frozen Fingers . . . Frayed Nerves

Forget this bother . . . with FASFILL! It's the quick fill pipe connection . . . just a turn of the wrist and FASFILL is in place. Make it up hand tight only. Build-ups are unnecessary, worn fill pipe threads make no difference. With FASFILL you have *any* needed connection in a jiffy! Long-wearing gaskets at all bearing points prevent oil seepage. FASFILL eliminates blowbacks and fill drip . . . makes slow fills — fast fills!

Shove The Gun Home and Let 'er Go!

There's a synthetic rubber diaphragm in the FASFILL head — just shove the gun through this diaphragm and forget about blowbacks. FASFILL is designed to hold the gun in correct position. Save your temper, save time, save money . . . with FASFILL!



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$11.50 F.O.B. CAMBRIDGE

Packed in convenient carrying case.

WHEN ORDERING be sure and give us the OUTSIDE measurement across your gun nozzle.

TO MAKE A QUICK OIL FILL PIPE CONNECTION USE . . .

FASFILL

Yes, GENERAL ELECTRIC!

MR. ECKHART agrees . . .
QUALITY EQUIPMENT helps make

SILENT KORTH

the SERVICE-FREE OIL BURNER

But that is not the only reason it enjoys such a fine reputation as a BETTER burner:

1. Silent Korth has eye-appeal and sales appeal.
2. Silent Korth is precision-built by one of the oldest oil burner manufacturers.
3. Silent Korth is made in one of the most modern, best equipped plants in the industry.
4. Silent Korth has a model and size for every job—from .75 to 20 G.P.H.
5. Silent Korth is competitive.

• ***See Our Exhibit—Booth #247—Grand Central Palace, N. Y.—February 2-6***

WRITE FOR OUR NEW HIGHER JOBBER DISCOUNTS AND REVISED LIST PRICES!

OIL BURNERS · AIR CONDITIONING OIL FURNACES · OIL BOILERS
SILENT KORTH OIL HEAT
REGISTERED U. S. PATENT OFFICE TRADE-MARK 428,036

JOBBERS & DEALERS!
Write today for our price list and Sales Help program. No obligation!

ECKHART MANUFACTURING CO.
470 First Avenue West
ROSELLE, NEW JERSEY

fuel oil & oil heat

dealers toward the overall industry objective of more storage at the consumer level.

The second part the dealer must play is that of cushioning the impact of the peak demand on the wholesaler, whose ability to adjust to the seasonal peak may also be limited by storage and transportation facilities. You all know what happened in the Mid-Continent last Spring. The shortage of tank cars was reflected in numerous and lengthy delays in filling orders, even though inventories were available for shipment at refineries and bulk terminals. Fortunately, the industry was successful in avoiding serious supply interruptions.

In the East, there is a greater reliance on truck movements of products from the wholesaler to the reseller. One solution to the seasonal problem here might be for the wholesaler to build up large truck fleets capable of delivering the peak seasonal requirements of dealers. Economically, this is not sound, since it means that thousands of dollars worth of equipment would be idle for a substantial part of the year. At the same time, the problem of having competent personnel appears. Implicit in such an uneven operation are over-time pay and seasonal lay-offs. This applies to the operation of the wholesalers plant as well as the trucks. Idle time on expensive equiment means higher costs. But there is a greater danger than higher costs at the wholesale level—the prospect of customers being without oil for their homes in the winter.

Even with larger truck fleets and more tank cars, there still is no assurance that the flow of supplies will be uninterrupted. Climatic conditions, which are responsible for the concentration of demand during the winter months, may range far from normal for short periods, aggravating the already difficult task of meeting peak demands. Concentration of orders for tank car shipments at supply terminals might cause considerable delay in filling them. Over the road conditions, particularly in northern areas, may limit trucking activity considerably.

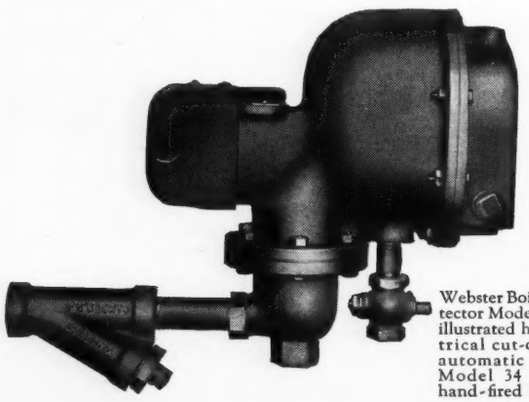
These risks may be minimized at the dealer level in several ways. First, by aggressively pursuing a summer fill-up program the maximum possible amount of oil can be stored at the point of consumption. Second, by maintaining sufficient seasonal storage at bulk plants to carry through a reasonable period of peak demand without supplemental supplies. Third, by filling this storage during the summer months and keeping it filled as long as possible as a reserve against contingencies until the peak is past.

The last point involves a new concept of storage expense. In the past, additional tankage always could be justified on the basis of frequent turnover of inventories, with tanks being used interchangeably for one product for part of the year and another for the remainder. Looking ahead with fueloil demands increasing more rapidly than gasoline, we must recognize the necessity of investing in tankage for slower turnover.

Dealers have shown reluctance for keeping available storage filled, though it is encouraging to note that dealers' stocks of distillate fueloils in the Middle Atlantic States increased sharply from 43% of capacity on August 1 to 65% of capacity on September 1. Further gains were recorded during the month of September. On the other hand, the extent to which dealers have filled storage during the summer months in New England is distressing. The unstable market conditions

Protection Against Accidental Low Water

Ask your Webster Representative for immediate delivery of the service-proven Webster Boiler Protector. It's the only protector incorporating a powerful hydraulically actuated mechanism—delivers maximum capacity instantly. Simple to install, easy to operate, dependable in service.



Webster Boiler Protector Model 34 C-1 illustrated has electrical cut-out for automatic heat. Model 34 is for hand-fired boilers.

Bulletin on request, address Dept. F-11

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- ✓ Standard equipment on many famous-name units.
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Write for Bulletin No. DL-K-301 or send complete information on your requirements.

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Hold it— MR. DEALER!

WAYNE HOME EQUIPMENT

Here's the *NEW* Wayne Thermo-White Oil Furnace!

In every business there's a leader. Wayne proudly presents Thermo-White, most desirable of fully automatic oil fired winter air conditioners. Economy of operation and expert design are typical of all Wayne Products. Wayne backs quality with active merchandising helps. Write for details of the Thermo-White dealer merchandising advertising.

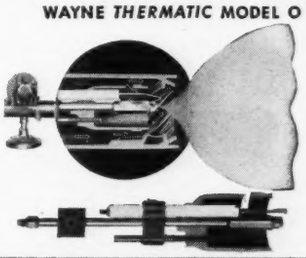
Thermo-White

. . . the sales sensation of the Oil Heating Industry is Here!

GLEAMING WHITE ENAMEL • FOREST GREEN TRIM

Matches Wayne water softeners, heaters and other equipment in recreation and utility rooms. No wonder Wayne dealers sold carloads in advance of public announcement! Imagine the demand when available newspaper dealer ads tie in with Wayne's national advertising! Thermo-White is Wayne's latest addition to a full line of oil and gas heating systems and conversion burners, and automatic home water systems. Write for details of the Thermo-White Furnace today!

THERMO-WHITE IS EQUIPPED WITH WAYNE *THERMATIC* MODEL O OIL BURNER



ECONOMY PLUS

More complete combustion with higher CO_2 rating for record economy. Firing head is rifled like a gun barrel. Adjustments are easily made from rear of burner. Burns standard fuel oils.

Write for Details of the Wayne Partnership Plan

THE WAYNE HOME EQUIPMENT CO., INC.
FORT WAYNE, INDIANA

have undoubtedly contributed to this postponement of dealer purchases, while in some instances inability to obtain product was the cause. Looking ahead, the failure to utilize every barrel of storage capacity may have dire consequences in the middle of the winter. The risk of not having oil to supply customers far outweighs that taken by purchasing in an unstable market. Failure to store distillate produced in the summer may force curtailment of refinery operations or a shift to gasoline, with the result that gasoline would be in long supply in the winter with distillate short.

One result of the seasonal unbalance may be the requirement by wholesalers that dealers purchase a minimum percentage of their fueloils in the summer months, with the penalty for failure to comply, forfeiture of a proportional share of winter supplies. This is one of the methods by which a wholesaler can hope to effect a reasonable balance between summer and winter demands.

No one segment of the industry can bear the burden of smoothing the flow of products from the refinery to the ultimate consumer. Full advantage will have to be taken of any refinery operating flexibility to minimize storage requirements. Maximum utilization of storage space already available will be required as will full use of economic transportation equipment, but the flow of product must not be dammed up along the way, else we will find a flood of product in one area and a drought in another. Wholesalers will have to keep the product moving to retailers and retailers will have to keep it moving to consumers. In the process, each segment will have to assume part of the responsibility of seasonal stock build-up.

The alternative will be to restrict fuel-oil sales to the point where gasoline and fueloils provide a balanced operation. This, to say the least, would be short-sighted. Costs may be higher, but regardless of costs, the industry cannot afford to have a shortage of supplies in its peacetime markets. These can stifle the demands upon which our progress is dependent. We in the industry must reconcile ourselves to the fact that higher inventories and seasonal carry-overs are an integral part of the heating oil business, which will have to be looked upon not as a seasonal activity but as a year around business. Consumers' tanks, dealers and terminal storage will have to be kept filled in the off-season and as far into the winter as possible. Only in this manner, can we hope to meet peak season requirements.

Rapps on Dealer Problems

In his paper representing the retailer's viewpoint, Rapps included considerable interesting and useful material affecting retailers but not related to the seasonal problem. Included here are only the parts of his paper that deal with the major theme, seasonal unbalance:

It must be taken into consideration that there are periods of the year when the truck driver has virtually nothing whatsoever to do.

Still, you dare not let him go, lest one of your competitors grab him.

You cannot lay him off for fear of weakening your organization.

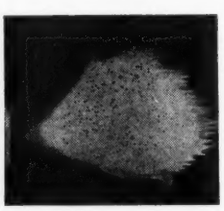
A good driver like a "good gal" is hard to find and if you do fine one, you hang on to him for dear life.

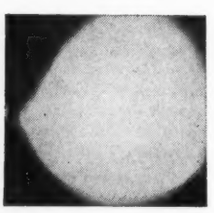
Therefore, even though there is nothing for him to do, the driver enjoys a sinecure and draws his salary without earning it.

Try and lay a driver off in the summer-

This Change

On Any Burner.





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Combustion head change saves 30%

We make the only Hollow Flame gun type burner and can provide Hollow Flame Combustion Heads for any other burner.

Mr. Brophy, one of our dealers writes: "When they see the change your head makes on the —— burners I used to sell they do not want just the head. They want a complete new AIRFLAME Burner. I'll be busy with replacements all winter."

Boiler-Burner Units now ready from ¾ to 2½ g.p.h. Burner-Furnace units ready soon.

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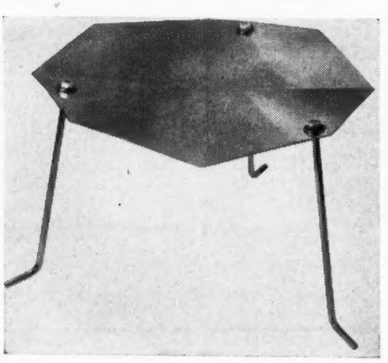

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OIL BURNING BOILER

The Steel scarcity will not stop your business if you use the New Yorker Oil Burning Residence Boiler. Our Steel source assures us of all the ¼" plate necessary to supply our customers promptly, regardless of demand.

We have for immediate delivery, all sizes, 325 sq. ft. to 1100 sq. ft. steam radiation shipped complete with Steel or Aluminum Jackets, Tankless Coils and Combustion Chambers.

BUILT TO EXCEL IN DEPENDABILITY,
LONG LIFE, AND LOW OPERATING COST

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NOW *AT HANDSOME PROFITS*
BIGGER FUEL OIL SALES
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Consult us for commercial and industrial oil burners to fit any job.

Burners to fire Bake Ovens, lead melting pots, Japanning ovens and all industrial applications including high and low pressure boilers of all types. Where you can't pit due to rock or water or where boiler furnace is long and narrow or restricted in furnace volume you can fire satisfactorily with our burner.

Ours is an air-oil burner with air and oil furnished to one or more nozzles by an air-oil pumpset which can be remotely located from burners. No moving parts exposed to heat of furnace or chambers.

Why lose a job when our burners can do it right

DON'T DELAY • SEE US TODAY

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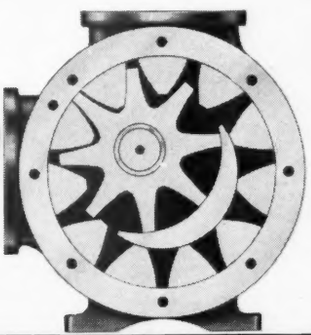


VIKING ROTARY PUMPS

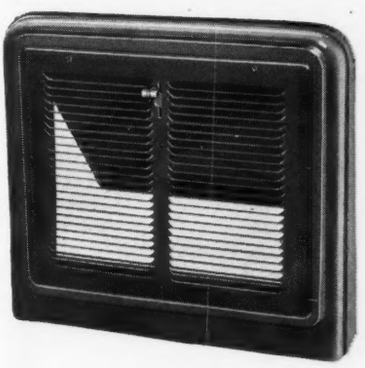
The pump that does the job well, day in and day out, is the one that's a worker. The Viking, with its "Gear Within a Gear—2 moving parts" principle, gives this type of service. Its rugged construction, without small intricate parts, springs, gadgets, etc., gives it the long, dependable life expected of a good pump.

Viking rotary pumps are engineered for the job—to do the work assigned them. Ask for free folder 1500EE today. Recommendations gladly given without obligation.

See Our Catalog In SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

EFFECTO-GRILLE



Series No. 100

GRAVITY REGISTER

with Removable Face for Gravity or Air Conditioning Installations

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Series 100 registers, with removable face, have modern streamlined styling, large free area and minimum resistance. To assure maximum free area, the horizontal fins are set at the factory. The fins are flexible and may be readily adjusted up or down to any desired angle. Available in all sizes required for all new or old gravity installations or as a replacement register when changing an existing gravity system to air conditioning.

We also carry a complete line of Air-Conditioning Registers and Grilles

TURNBULL *MANUFACTURING AND DISTRIBUTING CO.*

9937 Freeland Ave., Detroit 27, Mich.

time and see what happens.

The next thing you know, you receive a telephone call from some of your customers telling you that your former driver is soliciting their account at a reduced price and would you meet that price.

So you see, the retailer must hang on to his driver whether he needs him or not or accept the consequences of additional and unexpected competition.

Do you wonder why the price per gallon of delivery in the summertime puts the retailer in the red?

Only One Income Source

It must be kept in mind that the only income the retailer has is from his retail business.

He cannot augment his income from any other source, as the primary supplier or terminal operator may be in a position to do.

The summertime seems to be the bug-a-boo of the industry.

It is a fact that storage for the ensuing season normally rises so as to offset the demands for the cold weather.

It is also a fact that even if the retailer's customer desires to cooperate and fill his tank, we find that the greatest percentage of the customers have 275 gallon tanks.

While filling most 275 gallon tanks takes a large quantity of oil, it seems that a drive should be gotten under way for larger size tanks.

If a minimum of 550 gallon tanks were to be installed, it naturally follows that twice the amount of oil could be stored with the consumer during the summer weather.

With the average consumer using about 2000 gallons for the entire heating season, this would give the terminal operator and the retailer a start of 25% of the season's requirements; and if 1080 gallon tanks were installed 50% of the customers' seasonal requirements would be in storage by September 15th.

This would ease the burden on all segments of the industry.

It would also reduce the delivery cost per gallon to the retailer.

In this connection, it is interesting to note that in a survey made from coast to coast, the only section of the United States giving any thought to the trend of larger tanks is the Pacific Coast.

Based on that survey covering 1946 and the first half of 1947, it is a revelation to find that except on the Pacific Coast, no effort is exerted to sell a customer anything larger than the small basement tank —that is 275 gallon tanks.

With the continued growth of oil heat, it appears that the heating industry should develop a campaign for installing larger tanks.

In the metropolitan area, a committee composed of at least one member of each segment of the industry should be formed to explore this possibility.

Technical men should be placed at the service of this committee so that a program be promulgated to encourage the use of larger tanks.

This committee should consult with the fire department to liberalize the installation of larger tanks by removing antiquated restrictions.

It should foster the idea to permit two 275 gallon tanks to be tied together to create larger storage space.

I hate to be statistical but going back to the survey heretofore mentioned, the table shows tank size installation:

FITZGIBBONS
The right steel boiler in any size
Make it a Fitzgibbons and be sure, whether to heat a modest cottage or a towering sky-scraper. Be sure of full heating comfort, of vital savings in fuel cost, of a boiler that works in harmony with any good oil burner, gas burner, stoker, or gives full hand-fired satisfaction. Be sure, with a boiler that is A.S.M.E. constructed, Hartford inspected, S.B.I. rated, and with sixty continuous years of successful boiler building behind it. Check with your local Fitzgibbons engineer—or write us direct.
• 400 SERIES for modest homes
• OIL-EIGHTY for medium size homes
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HAVE PERMANENT LABORATORY ACCURACY

with DWYER TRANSPARENT

VISI-DRAFT

The only truly pocket-size inclined tube draft gage

- Continuous reading—you see the actual draft change while making your adjustments.
- No fragile moving parts.
- Unbreakable—spirit level chamber is drilled in solid, transparent plastic.
- Easily and correctly read under all conditions.
- Dust-proof.
- Range .05-0-.20" water in .01" divisions.
- Furnished complete with 8 feet of rubber tubing for remote readings.

Order from your jobber.

F. W. Dwyer Mfg. Co.

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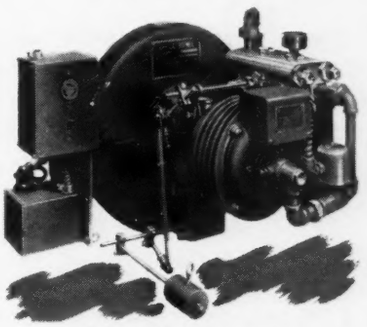
The OIL BURNER with RAY an INTERNATIONAL REPUTATION

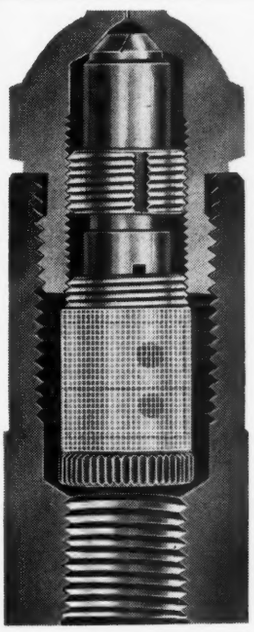


FIRST CHOICE

Into this Ray fully automatic Type AR-131 burner have gone over thirty years of research and engineering; in it are combined all the familiar features developed, proved and perfected by Ray. These features, though widely copied, have never been equalled. No wonder this burner is the *first choice* of industry and commerce throughout the world.

RAY OIL BURNER CO.

401 BERNAL AVE · SAN FRANCISCO



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INDIVIDUALLY TESTED & CALIBRATED

SPRAY ANGLES
AVAILABLE IN ALL SIZES, ARE MEASURED WITH SCIENTIFIC PRECISION

CAPACITY RATINGS
AVAILABLE IN ALL SIZES, ARE GAGED BY FLOW INDICATOR TO INSURE UNIFORMITY

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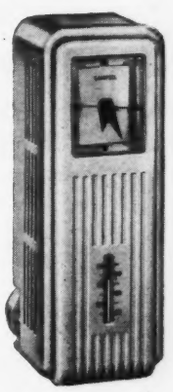

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A Complete Line of Quality Controls

There is a complete line of proven, dependable Sampsel controls for finer performance, easy installation, and freedom from servicing. Write for illustrated catalog.

SAMPSEL TIME CONTROL, INC., Spring Valley, Ill.

Sampsel
AUTOMATIC CONTROLS

Canadian Sales Distributor: PEASE FOUNDRY CO., Ltd., Toronto 1

Tank Sizes

	Under 275	275 to 300	550 to 675	1,000 or over
New England	3%	94%	1%	2%
Middle Atlantic	..	88	8	4
Middle West	36	61	1	2
Pacific Coast	5	30	64	1
All Sections	12%	75%	10%	3%

Now the wonder of it all is that in parts of the Middle West the retail cost of heating oil is based upon the size of the drop.

The larger the tank, the greater the rebate.

Still even with this differential in price the Middle West has installed in the past year 97% of small tanks and only 3% of larger tanks.

It looks as if a good signal caller could be used to get the team running in the right direction.

The thought occurs whether a scale of price differential based upon the size of the drop should be established in the metropolitan area.

Perhaps with proper education and monetary inducement the public may be won over to the point of view that even though it costs more to install a larger size tank, it would repay itself over a period of time by the price differential.

This being a seasonal business, winter is the time that the retailer must concentrate on deliveries.

If he is let down by his supplier he may as well fold up for no other supplier will do business with him.

The retailer must be assured of his requirements and it is the duty of his supplier to make sure that it is available.

In the winter, when additional help may be required, it is next to impossible to obtain experienced men.

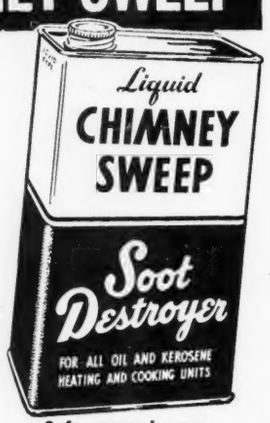
As a result, you are compelled to have your men work overtime with no added income but with lesser revenue because the customer must be serviced at all cost.

A frozen-in area is one where the requirements of petroleum products are brought in by barge through waters which, due to ice, are navigable only seven to nine months of the year. Cities like Bangor, Maine; Utica, New York; Buffalo, New York; and Detroit, Michigan have barge terminals supplying frozen-in areas. Some of these cities located in such areas may receive part of their petroleum requirements via pipe line but by and large their petroleum economy is based on a barge movement of sufficient magnitude during the period of open navigation to supply all of their current needs of petroleum products and at the same time build up sufficient inventory to winter through the frozen-in period.

A frozen-in period varies as to its duration and the time that it begins is based upon local climatic conditions and other factors. For instance, Bangor, Maine is generally closed from about the 1st of December to the 25th of March. In this instance the products originate at Portland, Maine, a port which is open all year round, and are borne through open ocean waters up to the mouth of the Penobscot River and thence up the river to Bangor. It is the river that freezes in this instance which prevents navigation to Bangor all year round.

Utica, New York is supplied from New York Harbor or from Albany via the New York State Barge Canal. The last barge can be locked into the canal generally between the 25th and 27th of November and navigation in the spring may begin anywhere between April 1 and May 1. The thirty days' difference, April 1 to May 1, in the delay in the opening of

WANTED by OIL USERS
Liquid CHIMNEY SWEEP



FOR OIL BURNERS, ROOM HEATERS, KEROSENE STOVES AND RANGES.

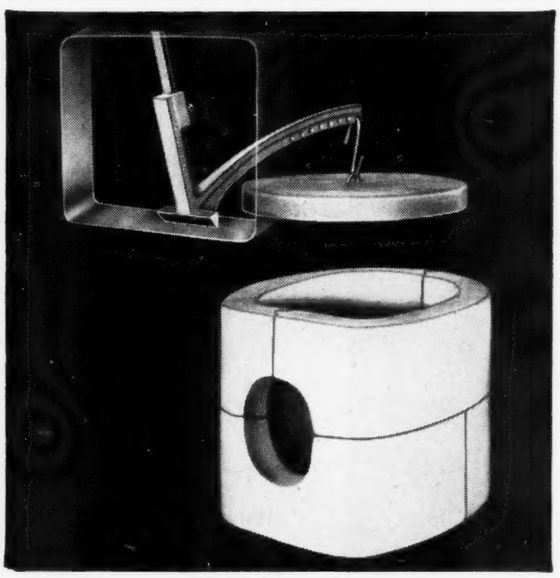
Liquid Chimney Sweep, sensational war-time discovery, quickly helps clean out soot and prevent soot from forming. Helps dissolve and remove gum deposits, sludge and water. Reduces oil odors. Retards rust and corrosion. Helps prolong life of burner.

Safe, easy to use.
Just pour in fuel oil tank.

Size	Recommended Use		Per Case	List Price Per Case	Retail Price*
Pt.	Treats 125 Gal. Fuel Oil	After first application reduce by one-half	1 doz.	$15.48	$1.29
Qt.	Treats 250 Gal. Fuel Oil		1 doz.	27.48	2.29
½ Gal.	Treats 500 Gal. Fuel Oil		1/3 doz.	17.16	4.29
1 Gal.	Treats 1000 Gal. Fuel Oil		1/3 doz.	31.56	7.89

*Fair Trade Price Protected

ORDER NOW—in Case Lots for best discount.
G. N. COUGHLAN CO., West Orange, New Jersey



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MYKA-DISK AND DISK-ARM (Pat. Appl. For)

SPEEDS UP HEATING. Lowers Stack Temperature. Permits higher CO_2 readings. Decreases Formation of Soot. Lowers Combustion Noise, and pays its way in a few weeks. Send for
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WILLIAMSON . . . . WAYNE COUNTY . . . . N. Y.

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in Consumer Acceptance

At-A-Glance readability from any direction; sizes to meet any tank requirements; sturdy, leak proof construction made to withstand high pressure; and UNDERWRITERS approval are plus values that make the Sentry gauge instantly acceptable with consumers everywhere. No intricate mechanism—easily installed. Write for complete details.

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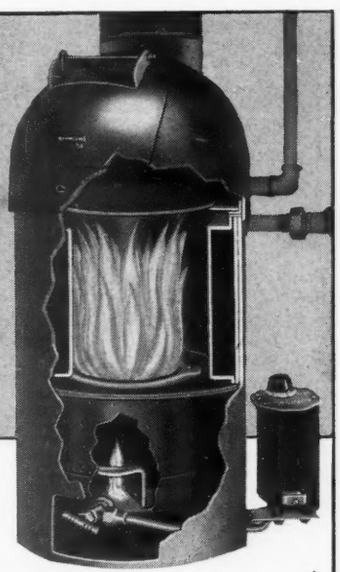
- PROFITABLE
- LOWEST-PRICE
- FULLY AUTOMATIC, EFFICIENT, STURDY AND DEPENDABLE
- UNIT IS COMPLETE. SHIPPED FULLY ASSEMBLED



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Automatic

OIL BURNING HOT WATER SUPPLY BOILER

Ready for immediate delivery
For full information write to either

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GILCOR PRODUCTS CORP.
Dowagiac, Mich.

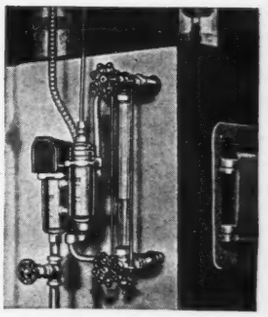
Stop Watching the Water-line

—Let the "MICRO" Boiler Protector Do It for You . . . .

Here's waterline control within the reach of all of your customers —A-1 boiler protection *at extremely low cost.*

The "Micro" No. 1100, shown at right, is made entirely of brass and other non-corrosive metals—completely automatic; absolutely dependable. All parts easily removable without detaching, or draining water from boiler.

Suitable for steam pressures to 15 lbs., and 5000 sq. ft. rated boiler capacity.



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Pedestal or
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Two Models—1 to 4 g.p.h. This is a good burner, at a good price, for dealers who know oilheating.

Write, wire or phone. Exclusive Franchises available.

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navigation is often due to high water in the canal caused by rains and melting ice which does not permit the barges and tugs to pass under the many fixed bridges which span the canal.

Practically all of the canal points between Albany and Buffalo would be governed by the same marine circumstance that would govern the movement of products to Utica.

Albany which is supplied by both barges and tankers proceeding up the Hudson river from New York Harbor, generally closes between the 20th and 25th of December and opens on or about the 15th of March.

Hartford, Connecticut, located on the Connecticut River has been able to cut down its frozen-in period materially during the past few years due to heavy traffic, particularly coal and petroleum barges. This traffic condition coupled with mild winters can permit Hartford to remain open a good part of the winter. Incidentally, Albany during the winter of 1945-46 was also open practically all winter due to the use of ice breakers and the heavy traffic of grain ships and other larger craft including some tankers. Hence Albany today has a shorter closed navigation period than before the war.

The ability to meet the needs of fueloil in any frozen-in area or, for that matter, in any area is affected only by three variables.

1. The availability of supplies.
2. The availability of transportation.
3. The availability of storage.

The question of the size of storage to be provided for any particular commodity such as fueloil for any definite period of time is dependent upon many local factors in addition to the other two variables. These local factors are:

1. Length of time during which the port will be closed to navigation.
2. The total demand for the commodity during the closed-in period. The demand may be affected by temporary changes in climatic conditions or by the local industrial conditions, especially if some of the fueloil is to be used by manufacturers experiencing labor troubles or by other related circumstances pertaining to competitive fuels.
3. The amount of oil stored in the consumers' or users' tanks and the amount of oil so stored as related to the total requirements for the frozen-in period.

This last factor actually is the most important local condition which affects the supply of a frozen-in area, for, if the consumers and users had sufficient storage space to warehouse all or most of their annual requirements, then there would be very little necessity of tieing up large inventories of fueloil at the barge terminals and the tankage itself could be used for either the storage of other products or for the storage of more of the same product, namely; fueloil. This would enable the handling of more business without increasing the size of storage. It is because of the deficiency of consumer storage as well as the reluctance on the part of consumers to fill their storage during the summer that it becomes necessary to warehouse large quantities of fueloil at frozen-in points.

The cost of storing any liquid commodity such as fueloil or gasoline is largely determined by the number of times a tank is filled and emptied during a twelve-month period. In certain localities having long frozen-in storage periods, as for instance—Utica, Syracuse or Rochester, ex-

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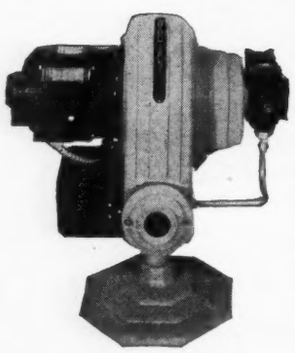

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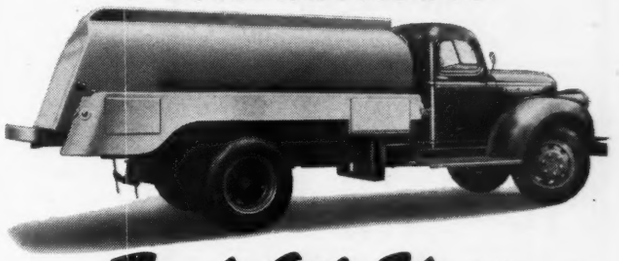

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QUANTITY .....

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up to **25%** ***Lower in Cost of Operation Than The Average Gun Type Oil Burner***

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perience has shown that fueloil storage tanks at the barge terminal very rarely turn over more than 1¼ times their capacities during a twelve-month period. Stating this another way, it means that a 40,000 barrel oil tank would receive and handle, between June 1 of one year and June 1 of the next year, approximately 50,000 barrels of fueloil. Hence the cost of through-put on storage costs of such an operation is much higher than if 60,000 or 80,000 barrels had passed through that tank during the same period of time.

It has been called to my attention that in the state of New York, comprising that area from Albany to Buffalo and excluding Binghamton and New York City, that the number of domestic central heating oil burners had increased 42.4% between June 1, 1945 and January 1, 1947. It is furthermore expected that this same area will experience a further additional gain during 1947 of 34%. These figures indicate quite clearly that by January, 1948 that whole area will have a demand for domestic fueloil practically double that which existed on June 1, 1945. If this demand for fueloil increases each year in the frozen-in areas it will definitely become necessary to build additional tankage.

Building more tankage is an expensive operation as the following costs will serve to illustrate. These building costs also illustrate why the costs for fueloil storage in frozen-in points are and will continue to be more expensive than the storage for gasoline which moves in and out of the terminal more frequently.

Approximate costs of constructing a 55,000 barrel cone type tank without lines or pump accessories are:

Year 1939—$.34 per barrel
1946— .50 per barrel
1948— .80 per barrel plus*

* A contract drawn today would have an escalator clause which may permit additions to the base price of $.80 per barrel.

Hence it is now obvious why it becomes necessary to institute such practices as will tend to cut down the amount of oil that is to be held in storage during the frozen-in period as compared to the total annual demand in any particular frozen-in area. It is absolutely necessary to put more fueloil through the present storage facilities during the time that the terminal is open to navigation so that eventually more oil is put through the same facilities during a full twelve-month period.

To accomplish this objective the following practices should prove helpful—

1. The introduction of larger storage tanks on the part of the consumers and users probably equal to 1/3 or ½ of their winter requirements.
2. Making sure that consumers' tanks are kept full at all times up to the close of navigation.
3. Equitable distribution of the frozen-in inventory during the period closed to navigation so that each user will

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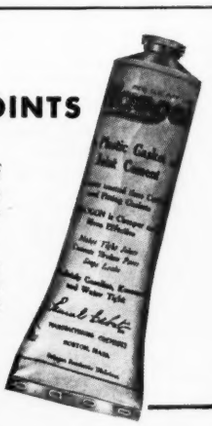

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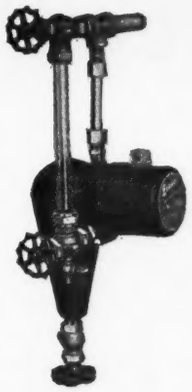

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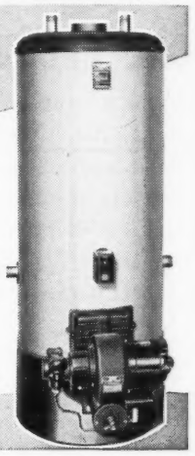

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How can I increase my profits easily, quickly, surely?

It's really not the toughie it seems to be.

Briefly, our plan enables you to build up good will among your present industrial and other customers who have large boilers by enabling them to reduce their fuel bills. Trying to heat the great outdoors by wasting heat thru the chimney is unnecessary. Our time tested scientific procedure definitely puts an end to this waste. *Results are guaranteed.*

In brief, the Tempo plan shows them how to eliminate heat insulating scale from their boilers by means of periodic chemical analysis of their feed water and supplying necessary chemical antidote to suit each individualized job, along with complete and detailed operational instructions.

Two other aids are sludge solvent for the fuel oil, and to control heat robbing soot—a powder that burns it up. A large sized spray gun applicator is furnished that reaches far corners.

These three products assure appreciable fuel saving and fewer service calls. Your profit on each sale averages very high and *you don't have to invest a single penny* by representing our laboratories. We will carry the accounts, you get credit for reorders. Customer doesn't pay a cent until fully satisfied with results. *He can't lose and you can't lose.* On the other hand, you now have an opportunity of increasing your yearly profits by *many thousands of dollars.*

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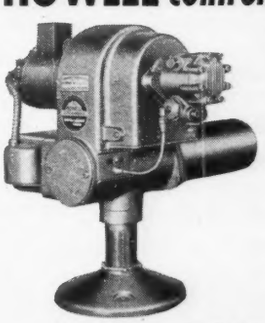

are proving highly satisfactory as replacements. Precision made for long life and perfect alignment of moving parts. Large draft tube and ample fan capacity reduces flame noise to a minimum. Easy and accurate air control for producing a clean efficient flame.

Parts mounting dimensions are standard, permitting interchange of parts for servicing.

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INCREASES EFFICIENCY— REDUCES COST

The Star Firebox is made of high heat resisting stainless steel formed in rounded sections that improve firing. IT IS EASILY ASSEMBLED IN LESS THAN 3 MINUTES. HEAT IS RADIATED ALL AROUND THE Star Firebox thereby adding up to 25% to the furnace heating area! Especially useful in cast iron furnaces where it eliminates cutting grate lugs. Sold and used from coast to coast.

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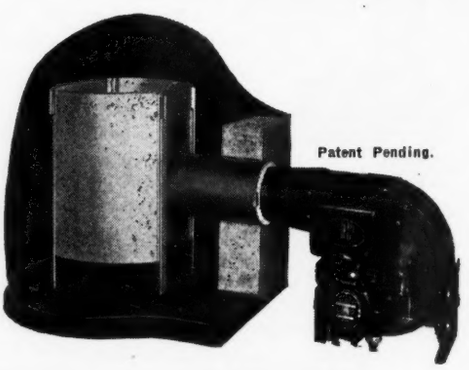

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receive only sufficient fueloil to last until the new supply arrives in the spring.

This last practice will require a good bit more attention than this phase of distribution has ever received heretofore. In the past, the practice has been to keep consumers' storage tanks full on a degree-day basis. This practice may not be possible in frozen-in areas until larger tankage has been installed and/or more supplies are made available during the closed-in period.

Any inventory deficiency will have to be moved in by rail instead of by barge. The supplementing of inventories by rail is very expensive as becomes evident after comparing the rail freight costs with barge transportation costs of #2 fueloil in the accompanying table.

Up to this point we have covered briefly the avails of storage for fueloil, the factors which influence the cost of operating that storage, the cost of constructing new storage, the economic value of large storage filled by water transportation as compared with the cost of smaller storage replenished by rail transportation and finally, some of the practices which result in the more efficient use of such frozen-in fueloil storage.

From	*To*	*Rail* ¢/gal.*	*Barge* ¢/gal.*
Bayonne, N. J.	Utica, N. Y.	2.07	.66
Bayonne, N. J.	Syracuse, N. Y.	2.15	.812
Bayonne, N. J.	Rochester, N. Y.	2.37	1.15
Bayonne, N. J.	Buffalo, N. Y.	2.52	1.40
Portland, Me.	Bangor, Me.	1.11	.357

* These rates do not include a 3% transportation tax nor do the rail rates reflect the recent 10% increase. Also the barge rates are approximate contract hauling rates and thus are not comparable with spot transportation rates nor with the costs experienced by companies owning and operating their own barges.

The other two variables which, if unbalanced, will severely affect frozen-in areas are:

1. The availability of supplies.
2. The availability of barge or marine transportation.

These two variables must be simultaneously readily available at all times during the period of open navigation in order to result in full storage tanks when the last barge load is delivered into the frozen-in storage. Furthermore, these two variables are practically inseparable insofar as their effect on frozen-in storage is concerned because of the limited time in which all of the products must be moved to each of the various destinations. The barges must be available when the products arrive at the loading port and the product must be available when the barges are ready to load again for delivery to the frozen-in storage points. Any interruption in the flow of product destroys the efficiency of the transporting equipment and will result ultimately in somebody's tanks being only partially filled with products when the freeze comes. Adequate barge

Remove Soot and Carbon

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- Fast
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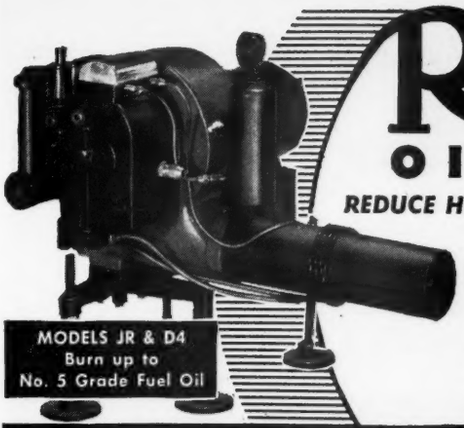

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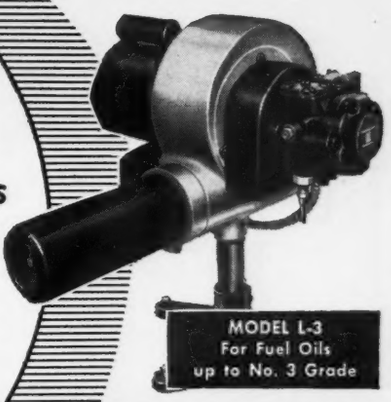
These two sturdy, efficient oil burners are built to give years of satisfactory service. Models for No. 5 heavy fuel oil operate on the diesel principle with a 2-cylinder compressor unit, integral oil pump, automatic pre-heating and lubrication. The Model L-3 for No. 3 oil is a precision-machined unit ideal for conversion installations with capacities up to 5 G.P.Hr.



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Burn up to
No. 5 Grade Fuel Oil

MODEL L-3
For Fuel Oils
up to No. 3 Grade

C. L. RAYFIELD CO., 2010-18 S. Halsted St., Chicago 8, Ill.

carrying capacity is very essential. During the current season, I venture to say that very few barges have been idle since the opening of the canal and the present indications are that there will be very little idle time between now and the close of navigation on the New York State Barge Canal System.

The new supplies of transportation, that is; the building of new barges, and the new supply of fueloil itself have not been able to keep pace with the new demands for fueloil. Since these two variables must be simultaneously readily available, some measures will have to be instituted to offset the deficiency in transportation and in supply.

When the supply flow is intermittent or is temporarily broken down completely or is deferred, then it becomes highly essential that the transportation equipment be utilized in such a manner that no time is lost in standing idle waiting for the cargo. Products should be switched and inventories should be built up in the frozen-in points with whatever product is available as long as petroleum product inventories are being consistently increased at the frozen-in points during the period of navigation.

Our own experience during the current season was such that we found it necessary to clean Bunker "C" barges for light fuel and later dirty them. It now appears as though we may again have to clean one or two more barges in order to assure ourselves of an adequate supply of transportation which will conform to the flow of our product to the ocean port at which our barges are loaded. This circumstance is entirely due to the flow of the supply of products which supply is not as readily

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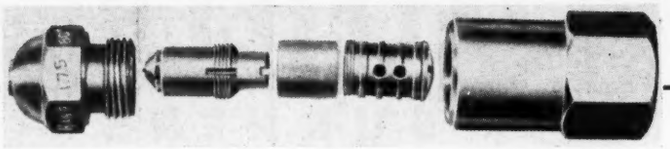

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ACCURATE CAPACITY RATINGS AND SPRAY ANGLES
ARE THE NATURAL RESULTS OF OUR
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in the nozzle field

PRECISION MEANS HAGO!

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available at all times as our transportation. Eventually the supply will equal the amount of transportation which we have set up as our objective to be moved during the whole period of time that the canal is to remain open to navigation. But the product did not arrive in the same manner in which our quantity of clean or dirty barges became available at the point of loading.

The quantity of transportation for delivery to frozen-in points can be slightly increased by prolonging the shipping season with the aid of ice-breakers. However, ice-breakers cannot be used except in brackish waters. They cannot be used in the Barge Canal nor on the Great Lakes throughout the winter to keep open the lanes for marine traffic.

Another available method of transportation to frozen-in areas is the pipe line which plays an important part in such cities as Syracuse, Rochester and Buffalo, but unless the pipe line is as readily available to all shippers as freely as barges, then the pipe line cannot in any manner eliminate the necesssity for building more barges and additional fueloil storage tanks in the frozen-in areas where the petroleum economy is based on barge or marine transportation. Therefore, as the demand for all petroleum products increases in the frozen-in areas it becomes necessary to build more storage tanks for all of the products and more barges to transport the various commodities.

I think it can be readily concluded that the third variable—supply—must be readily available at all times simultaneously with barge transportation. In fact, it must be slightly more readily available than transportation in order to completely

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AND STRIPS
AND ALSO CRIMPS
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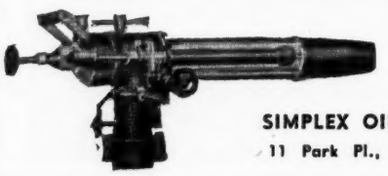

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QUICKLY... ON ONLY 4 TO 8 OUNCES of VAPOR

THE GORTON SYSTEM of VAPORIZING and EQUALIZING existing steam heating systems for automatic heating provides automatic heat distribution . . . The flow of vapor to all radiators is automatically controlled so that rooms farthest from the boiler are heated as quickly as those near the boiler . . . NO PIPING CHANGES ARE REQUIRED.

THE SURE CURE FOR COLD RADIATORS

WRITE TODAY FOR BULLETIN NO. 115C.

Manufacturers of High Grade Heating Equipment Since 1887.

CRANFORD GORTON HEATING CORP. NEW JERSEY

fill the storage in the frozen-in areas, and it must be adequately available at all times when the waters are open for navigation. This condition is not limited to only fueloil, it applies to all petroleum products that are to be frozen-in. Fueloil is one of the products whose flow is likely to be impeded or deferred or temporarily suspended during the period of open navigation. Products should be switched on the clean barges and the flow of all petroleum products continued as they become available, rather than as some individual may desire to dictate when a certain product is to be loaded for a certain destination. Until the three variables again become available in unlimited quantities the frozen-in area will be the one which will suffer the most due to the unbalanced supply of fueloil.

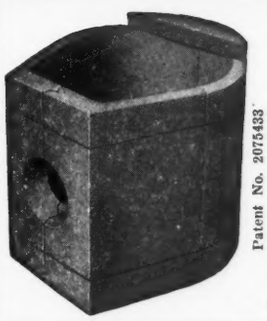
◈

Indianapolis Homes Six Per Cent Oilheated

IN ITS "1947 CONSUMER SURVEY," the *Indianapolis Star* shows that only 6.4% of all homes in the Indianapolis metropolitan area are oilheated. This represents 9,061 residences. The table shows the ratios among the various fuels in use. Oil companies are finding their demands for this winter very much above last winter throughout most of Indiana, for the rate of gain in oilburners has been quite high, although the actual numbers involved are low.

	Per Cent	*Homes*
Coal	73.2	102,981
Coke	15.2	21,330
Oil	6.4	9,061
Gas	3.8	5,290
City Steam	0.5	844
All Other	0.9	1,194

truly TIME-TESTED



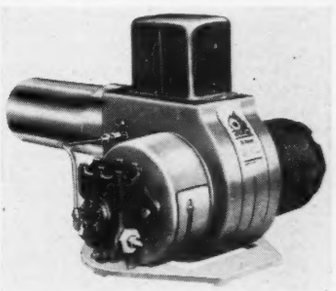
FOR THE BEST SPECIFY LITE-CAST

CHAMBER PACKED IN WOODEN BOX COMPLETE WITH BACKFILL, FLOOR AND CAPPING CEMENT, BAFFLE AND TIE BANDS.

Patent No. 2075433

Monogram Combustion Chamber Co.
PHILADELPHIA 4, PA.

AT LAST An Oil Burner with a 15% CO_2



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Write or Wire for Details, NOW!

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Homestead EQUIPMENT & MFG. CO.
125-01 QUEENS BLVD.
KEW GARDENS 15, N. Y.

A Terrific Business Builder that can be had under your own Brand Name

GILLEN

Automatic Oil-Burning Furnaces—Water Heaters

J. L. GILLEN CO.
DOWAGIAC, MICHIGAN

ROLL-RULE
DEGREE DAY CALCULATORS
$30.00

MANUFACTURED BY —
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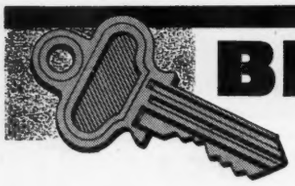
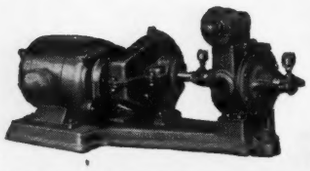


BLACKMER PUMPS

The Key to

- LOWER PUMPING COSTS
- SUSTAINED PUMPING CAPACITY
- PUMP DEPENDABILITY



Write for Bulletin 102—PUMPS FOR THE PETROLEUM INDUSTRY which explains why the "Bucket Design" (swinging vane principle) maintains pumping capacity by automatically compensating for wear and how the buckets, when finally worn out, are easily replaced and the pump restored to its normal capacity.

BLACKMER PUMP CO., 2170 Century Ave., Grand Rapids 9, Michigan

SERVING THE PETROLEUM INDUSTRY FOR OVER 40 YEARS

DISTRIBUTORS and DEALERS !

new franchise plan for the dependable

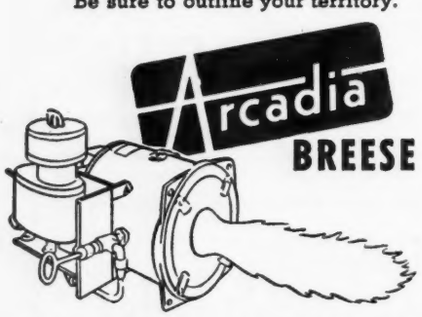
ARCADIA - BREESE

Horizontal Oil Burners

These Horizontal Oil Burners (for ⅔ to 1 gph) carry on the Breese tradition for superior, trouble-free products. They are now further improved for quick inexpensive conversion of ranges, water heaters, furnaces, arcolas, etc.

Franchises are still open in many territories, enabling you to sell the Arcadia-Breese Burner and round out your present heating line.

Wire us today or mail handy coupon for complete information. Be sure to outline your territory.



BURNER DEVICES

Oldest Contractor Manufacturer of Breese Horizontal Burners

ARCADIA, CALIFORNIA

BURNER DEVICES, Arcadia, Calif.
Without obligation, please send complete information on the Arcadia-Breese Burners.

Name_____

Address_____

Our territory covers_____

We are ☐ Distributor ☐ Dealer

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE (Sept. 1 to May 31)			
Normal	1946	1947	Percent Change*		Normal	1946	1947	Percent Change*
116	91	185	+ 59.5	Albany	6587	6778	6531	— 0.8
12	14	23	+ 91.7	Atlanta	2999	2753	2922	— 2.6
34	11	87	+155.9	Baltimore	4509	4016	4147	— 8.0
98	57	137	+ 39.8	Boston	5853	5710	5415	— 7.5
125	109	168	+ 34.4	Buffalo	6805	6460	6450	— 5.2
84	83	139	+ 65.4	Chicago	6205	6086	6269	+ 1.0
52	14	84	+ 61.5	Cincinnati	4993	4410	4917	— 1.5
92	62	127	+ 38.0	Cleveland	6094	5659	5852	— 4.0
5	0	0	...	Dallas	2378	2103	2475	— 4.1
124	99	73	— 41.2	Denver	5784	5502	5894	— 1.9
99	103	103	+ 4.0	Des Moines	6356	6118	6452	+ 1.5
109	85	150	+37.6	Detroit	6502	6088	6280	— 9.7
126	94	161	+ 27.7	Grand Rapids	6655	5941	6367	— 4.4
106	52	158	+ 49.0	Hartford	6037	6168	5809	— 3.8
288	313	283	— 1.8	Helena	7600	7058	7887	+ 3.7
0	0	0	...	Houston	1333	1188	1489	+11.7
65	53	106	+ 63.0	Indianapolis	5459	5337	5399	— 1.1
50	37	41	— 18.0	Kansas City	4971	4362	4869	— 2.1
5	0	1	...	Los Angeles	1362	1417	1335	— 2.0
34	19	61	+ 79.4	Louisville	4421	3926	4277	— 3.3
120	140	179	+ 49.1	Milwaukee	6955	6991	7170	+ 3.0
163	195	198	+ 21.4	Minneapolis	7898	7666	7888	— 0.2
0	0	182	...	New Orleans	1208	1166	1380	+14.2
51	19	105	+104.8	New York	5270	4885	4833	— 8.3
81	84	88	+ 8.6	Omaha	6074	5572	6142	— 1.1
36	21	95	+163.8	Philadelphia	4732	4878	4693	— 0.9
69	46	111	+ 60.8	Pittsburgh	5427	5284	5267	— 3.0
179	146	223	+ 24.5	Portland, Me.	7128	7572	7129	...
109	116	67	— 38.6	Portland, Ore.	4214	3830	4161	— 1.3
104	50	133	+ 27.8	Providence	5946	5668	5335	—10.3
36	29	73	+102.7	St. Louis	4602	4342	4650	— 1.0
95	137	110	+ 15.7	Salt Lake City	5568	5640	5721	+ 2.7
122	107	136	+ 11.4	San Francisco	2569	3113	2971	+15.6
281	286	310	+ 10.3	Sault Ste. Marie	8901	8778	8943	+ 0.4
174	150	155	— 11.0	Seattle	4560	4422	4417	— 3.2
98	79	156	+ 59.1	Toledo	6202	6079	6178	— 0.4
43	11	87	+102.3	Washington	4582	4028	4036	—12.0

*Compared with normal.